

**“The Relationship of Positive and Negative
Perfectionism to Academic Achievement,
Achievement Motivation, and Well-Being in
Tertiary Students”**

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**It is when we stop trying to do everything right
that we start to do things well. These two things
are not the same – but neither are they mutually
exclusive**

- Hatley (2005)

Contents Page

1. Abstract.....	1
2. Introduction.....	3
2.1 Definition and Characteristics.....	3
2.2 Dimensions of Perfectionism.....	4
2.3 Perfectionism as Maladaptive.....	6
2.3.1 Depression.....	7
2.3.2 Eating Disorders.....	8
2.3.3 Obsessive-Compulsive Symptoms.....	9
2.3.4 Other Maladaptive Behaviours.....	10
2.4 Perfectionism as Adaptive.....	10
2.5 Positive and Negative Perfectionism.....	11
2.5.1 Positive Perfectionism.....	12
2.5.2 Negative Perfectionism.....	13
2.6 Academic Achievement.....	14
2.7 Achievement Motivation.....	15
2.8 Personality Factors.....	17
2.9 Stress and Coping.....	19
2.9.1 Stress.....	19
2.9.2 Coping.....	20
2.10 This Study.....	23
2.10.1 Hypotheses.....	23
2.10.2 Rationale.....	24

3. Research Design and Methods.....	25
3.1 Participants and Recruitment.....	25
3.1.1 University of Canterbury Students.....	25
3.1.2 Christchurch College of Education Students.....	26
3.2 Measures.....	27
3.2.1 Frost Multidimensional Perfectionism Scale (MPS).....	27
3.2.2 Short Form of the Ray Achievement Orientation Scale.....	28
3.2.3 NEO Personality Inventory.....	28
3.2.4 Positive and Negative Affect Schedule (PANAS).....	29
3.2.6 Depression, Anxiety and Stress Scale (DASS).....	30
3.2.6 The COPE.....	30
3.2.7 Demographic and Academic information.....	31
4. Results.....	33
4.1 Demographic Information.....	33
4.1.1 Gender.....	33
4.1.2 Age.....	33
4.1.3 Ethnicity.....	34
4.1.4 Highest Secondary School Qualification Obtained.....	34
4.1.5 Decile Rating of High School Attended.....	35
4.1.6 Grade Point Average (GPA).....	36
4.2 Descriptive Statistics for Questionnaire Measures.....	36
4.2.1 Multidimensional Perfectionism Scale (MPS).....	36
4.2.2 Ray Achievement Orientation Scale (Ray AO).....	39
4.2.3 NEO Personality Inventory (NEO PI).....	39

4.2.4	Composite Order Score.....	40
4.2.5	Positive and Negative Affect Scale (PANAS).....	40
4.2.6	Depression, Anxiety and Stress (DASS).....	41
4.2.7	The COPE.....	42
4.3	Correlations.....	43
4.3.1	Multidimensional Perfectionism Subscale Correlations.....	43
4.3.1.1	Concern Over Mistakes (CM).....	44
4.3.1.2	Personal Standards (PS).....	45
4.3.1.3	Parental Expectations (PE).....	46
4.3.1.4	Parental Criticisms (PC).....	47
4.3.1.5	Doubts About Actions (D).....	48
4.3.1.6	Organisation (O).....	49
4.3.2	Multidimensional Perfectionism Scale Overall Correlations....	50
4.3.2.1	Positive Perfectionism.....	50
4.3.2.2	Negative Perfectionism.....	53
4.3.2.3	Total Perfectionism.....	54
4.3.3	Academic Achievement Correlations.....	55
4.3.3.1	Highest Secondary School Qualification Obtained....	55
4.3.3.2	High School Decile Rating.....	57
4.3.3.3	Grade Point Average (GPA).....	57
4.3.4	Achievement Motivation Correlations.....	58
4.3.4.1	Ray Achievement Orientation Scale (Ray AO).....	58
4.3.5	NEO Personality Inventory (NEO PI) Correlations.....	61
4.3.5.1	Extraversion.....	62
4.3.5.2	Agreeableness.....	63

4.3.5.3	Conscientiousness.....	64
4.3.5.4	Neuroticism.....	65
4.3.5.5	Openness to Experience.....	66
4.3.6	Composite Order Score.....	67
4.3.7	Positive and Negative Affect Scale (PANAS) Correlations....	69
4.3.7.1	Positive Affect.....	70
4.3.7.2	Negative Affect.....	71
4.3.8	Depression, Anxiety and Stress Scale (DASS) Correlations....	72
4.3.8.1	Depression.....	73
4.3.8.2	Anxiety.....	74
4.3.8.3	Stress.....	75
4.3.9	COPE Correlations.....	76
4.3.9.1	Functional Coping Strategies.....	76
4.3.9.2	Dysfunctional Coping Strategies.....	78
4.4	Regression Analyses.....	80
4.4.1	Predicting Grade Point Average (GPA).....	80
4.4.1.1	Highest Secondary School Qualification Obtained....	80
4.4.1.2	Decile Rating of High School Attended.....	80
4.4.1.3	Positive Perfectionism.....	80
4.4.1.4	Negative Perfectionism.....	81
4.4.1.5	Total Perfectionism.....	81
4.4.1.6	Achievement Motivation.....	81
4.4.2	Predicting Achievement Motivation.....	81
4.4.2.1	Positive Perfectionism.....	81
4.4.2.2	Negative Perfectionism.....	81

4.4.2.3 Total Perfectionism.....	82
4.5 Hierarchical Regression Analyses.....	82
5. Discussion.....	83
5.1 Academic Achievement.....	83
5.2 Achievement Motivation.....	84
5.3 General Well-Being.....	86
5.3.1 Personality Factors.....	86
5.3.2 Positive and Negative Affect.....	86
5.3.3 Depression and Anxiety.....	87
5.3.4 Stress.....	88
5.4 Coping Strategies.....	89
5.5 Positive and Negative Perfectionism.....	90
5.6 Methodological Problems.....	91
5.7 Future Research.....	92
5.8 Conclusion.....	93
6. Acknowledgements.....	94
7. References.....	95
8. Appendices.....	108
8.1 Consent Form Given to Participants.....	108
8.2 Information Sheet Given to Participants.....	109
8.3 Questionnaires Given to Participants.....	110

8.3.1 Multidimensional Perfectionism Scale (MPS).....	110
8.3.2 Ray Achievement Orientation Scale (Ray AO).....	112
8.3.3 NEO Personality Inventory (NEO PI).....	114
8.3.4 Composite Order Score.....	116
8.3.5 Positive and Negative Affect Scale (PANAS).....	117
8.3.6 Depression, Anxiety and Stress Scale (DASS).....	118
8.3.7 The COPE.....	120

List of Tables

Tables	Page
1. Means, Standard Deviations, Minimums and Maximums for Ages of Participants and Grade Point Average.....	33
2. Means, Standard Deviations, Minimums and Maximums of the Multidimensional Perfectionism Subscale Scores.....	38
3. Mean, Standard Deviation, Minimum and Maximum of the Ray Achievement Orientation Scale Scores.....	39
4. Means, Standard Deviations, Minimums and Maximums of the NEO Personality Inventory Scores.....	40
5. Mean, Standard Deviation, Minimum and Maximum of the Composite Order Score.....	40
6. Means, Standard Deviations, Minimums and Maximums of the Positive and Negative Affect Scale Scores.....	41
7. Means, Standard Deviations, Minimums and Maximums of the Depression, Anxiety and Stress Scale Scores.....	42
8. Means, Standard Deviations, Minimums and Maximums of the COPE Scores...	42

9. Correlations of the MPS Scores, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School Qualification Achieved, and GPA.....	43
10. Correlations of the MPS Positive Perfectionism, Negative Perfectionism and Total Perfectionism Scores, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School Qualification Achieved, and GPA.....	51
11. Correlations of the Highest Secondary School Qualification Achieved, Decile Rating of High School, and GPA, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School Qualification Achieved, and GPA.....	56
12. Correlations of the Ray AO, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School Qualification Achieved, and GPA.....	59
13. Correlations of the NEO PI, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School	

Qualification Achieved, and GPA.....61

14. Correlations of the Composite Order Score, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School Qualification Achieved, and GPA.....67

15. Correlations of the PANAS, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School Qualification Achieved, and GPA.....69

16. Correlations of the DASS, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School Qualification Achieved, and GPA.....72

17. Correlations of the COPE, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School Qualification Achieved, and GPA.....77

List of Figures

Figures	Page
1. Graph Showing Ethnicity of Participants.....	34
2. Graph Showing the Highest Secondary School Qualification Obtained by Participants.....	35
3. Graph Showing the Decile Ratings of the High Schools Attended by Participants.....	36

1. Abstract

The relationship between positive and negative perfectionism, and academic achievement, motivation and well-being in tertiary students was investigated. It was hypothesized that higher levels of positive perfectionism would be associated with higher academic achievement, higher achievement motivation, lower levels of depression, anxiety and stress, the use of more adaptive coping strategies, and positive personality variables, compared with negative perfectionists. Additionally, it was hypothesized that higher levels of negative perfectionism would be associated with lower levels of academic achievement, lower achievement motivation, higher levels of depression, anxiety and stress, the use of more maladaptive coping strategies, and negative personality variables. 99 first year tertiary students participated, 71 from the University of Canterbury, and 28 from the Christchurch College of Education. The Frost Multidimensional Perfectionism Scale (MPS) was used to measure positive, negative and total levels of perfectionism. The short-form of the Ray Achievement Orientation Scale (Ray AO) was used to measure the level of achievement motivation. The NEO Personality Inventory (NEO PI) was used to measure the “Big Five” personality variables (extraversion, agreeableness, conscientiousness, neuroticism and openness to experience). The Positive and Negative Affect Scale (PANAS) was used to measure levels of positive and negative affect. The Depression, Anxiety and Stress Scale (DASS) was used to measure levels of depression, anxiety and stress. The COPE was used to measure the use of functional and dysfunctional coping strategies. Demographic and academic information were obtained from student’s academic files. The results indicated that, generally, the hypotheses were correct. Positive perfectionism showed associations with higher academic achievement, higher achievement motivation, positive personality factors, and more use of functional

forms of coping, while negative perfectionism showed associations with negative affect, depression, anxiety, stress, negative personality factors, and more use of dysfunctional coping strategies. It is therefore concluded that positive perfectionism can have a positive association with academic achievement, achievement motivation and general well-being, while negative perfectionism can have a negative association with these factors.

Many individuals are concerned with meeting high standards for performance. Consequently, the concept of perfectionism has been studied increasingly in the last few decades. The concept has evolved to now being formally defined, theoretically integrated and empirically measured (Flett & Hewitt, 2002a; Flett & Hewitt, 2002b; Rheume, Freeston, Dugas, Letarte & Ladouceur, 1995).

2. Introduction

2.1 Definition and Characteristics

Perfectionism refers to a set of self-defeating thoughts and behaviours. These are concerned with reaching excessively high and unrealistic goals, even in areas in which high performance does not matter. Perfectionists often engage in overly critical self-evaluations. Failure experiences are often overgeneralised, and they will often pay particular attention to their failures at the expense of their successes.

Perfectionists often experience all-or-none thinking, where they believe they are a failure if not all of their goals are completed without any mistakes - they have inflexible notions of what constitutes success and failure. They often experience a fear of making mistakes, and measure their self-worth in terms of productivity and accomplishment. Failure to achieve their goals results in a lack of personal worth (Blankstein, Flett, Hewitt & Eng, 1993; Broday, 1988; Brophy, 2005; Ellis, 2002; Frost & Marten, 1990; Shafran, Cooper & Fairburn, 2002). The fear of failure, of not being perfect and of not being able to live up to the expectations of themselves and others, can cause overwhelming feelings that lead to procrastination as an avoidance tactic - this allows the individual to avoid a less than perfect performance (Frost & Marten, 1990; Frost, Marten, Lahart & Rosenblate, 1990; Peters, 2005). Perfectionists also fear disapproval by others, and believe that if they let others see their flaws they will not be accepted. They commonly believe that others achieve success with minimal effort or stress, while they feel they have to work hard without obtaining success (Frost & Marten, 1990; Hall, 2005). Taken together, these irrational beliefs can lead to the experience of negative emotions, such as shame, guilt and embarrassment (Tangney, 2002).

Recently, a cognitive-behavioural construct of “clinical perfectionism” has

been proposed. It is suggested that the core feature of clinical perfectionism is the “over dependence of self-evaluation on the determined pursuit and achievement of personally demanding standards” (Riley & Shafran, 2005: 369). This is accompanied by self-imposed dysfunctional standards, continual striving, and significant adverse consequences as a result of such striving.

2.2 Dimensions of Perfectionism

Although perfectionism was once thought of as one-dimensional, since the early 1990's it has been considered multidimensional (Riley & Shafran, 2005). Two main conceptualisations have emerged in the literature. Frost et al. (1990) identified perfectionism as having five dimensions. The first dimension, which is considered the major dimension, is **concern over mistakes**. This reflects a tendency to interpret mistakes as equivalent to failure, and the belief that one will lose the respect of others following failure. The second dimension is the setting of excessively high **personal standards**, which often cannot be met satisfactorily. The third dimension is **parental expectations**, which involves the extent to which the parents of the individual are perceived as setting high expectations. The fourth dimension is **parental criticism**, **which** involves the extent to which parents are perceived as being overly critical. The fifth dimension is **doubts about actions**, which is the tendency to doubt the quality of one's performance. Additionally, a sixth dimension has been identified. This is **organisation**, which reflects a tendency to be orderly and organized (Alden, Ryder & Mellings, 2002; Frost, Heimberg, Holt, Mattia, & Neubauer, 1993; Frost, Lahart & Rosenblate, 1991; Frost et al. 1990; Frost, Turcotte, Heimberg, Mattia, Holt & Hope, 1995).

Alternatively, Hewitt and Flett identified three dimensions of perfectionism.

According to this conceptualisation, although the behaviours exhibited are frequently similar among the dimensions, the distinguishing features among the dimensions involve 1) from whom the perfectionist expectations derive (i.e. the self or others), and 2) to whom the behaviours are directed (i.e. toward the self or others) (Hewitt & Flett, 2002). The first dimension is **self-oriented perfectionism**, in which the individual has unrealistic standards for themselves, strives for these standards, is overly critical of themselves, tends to overly focus on their flaws, and tries to avoid failure. The second dimension is **other-oriented perfectionism**, in which the individual has unrealistic standards and expectations about the abilities of others, and is often overly evaluative of others' performance. The third dimension is **socially-prescribed perfectionism**, in which the individual believes that others have perfectionist expectations and motives about them, and they feel they must attain these standards (Blankstein & Winkworth, 2004; Flett, Hewitt, Blankstein & Mosher, 1995a; Hewitt & Flett, 1991a; Hewitt & Flett, 1991b; Hewitt, Flett & Turnbull, 1992a; Hewitt, Flett & Weber, 1994; Hewitt, Newton, Flett & Callander, 1997; Kobori, Yamagata & Kijima, 2005).

A study by Frost et al. (1993) found that the measurements of perfectionism developed by Frost and colleague's and by Hewitt and Flett, which are each based on their conceptualisations of the construct, are closely related. They found that the personal standards, organization, self-oriented perfectionism and other-oriented perfectionism subscales clustered to form a factor reflecting the more positive aspects of perfectionism. The concern over mistakes, parental criticism, parental expectations, doubts about actions and socially-prescribed perfectionism subscales clustered to form a factor reflecting the more negative aspects of perfectionism.

2.3 Perfectionism as Maladaptive

Perfectionism is often considered to be a symptom of maladjustment, and this has been the dominant view in the past (Flett & Hewitt, 2002b; Silverman, 2005; Terry-Short, Owens, Slade & Dewey, 1995). Pacht (1984) stated that perfectionism was not only undesirable but also debilitating and unhealthy, while Roedell (1984) suggested that perfectionism coupled with a punishing attitude toward an individual's own efforts can be detrimental (in Peters, 2005). Campbell and Di Paula (2002) suggest that the consequences of perfectionism depend on the particular set of perfectionistic self-beliefs that an individual chooses to examine. Difficulties are thought to arise from the characteristics of perfectionist individuals previously mentioned, such as the tendency to set unrealistic standards, to strive for these standards, to focus on failures and to think in all-or-nothing terms (Hewitt & Flett, 1991b). It has also been suggested that perfectionists will be vulnerable to adjustment problems if their perfectionism is contingent on feelings of self-worth (Flett, Hewitt, Oliver & Macdonald, 2002).

The different dimensions of perfectionism have been found to contribute differentially to maladaptive and adaptive outcomes. Regarding the Hewitt and Flett perspective, socially-prescribed perfectionism is more strongly and consistently linked to maladjustment, although self-oriented perfectionism is associated to a lesser extent with maladjustment (Hewitt, Flett, Turnbull-Donovan & Mikail, 1991b; Kenney-Benson & Pomerantz, 2005; Stumpf & Parker, 2000). This may be because self-oriented perfectionists are more selective in the domains in which they require perfection, and may select tasks that are easily achieved. Socially-prescribed perfectionists, in contrast, may feel like they have little choice in the tasks in which perfection is required, as standards are imposed by others (Tangney, 2002). Other-

oriented perfectionism is the dimension thought to be least associated with maladjustment

Regarding the Frost and colleague's perspective, concern over mistakes is the dimension most closely related to symptoms of maladjustment (Flett & Hewitt, 2002b; Frost et al. 1990; Saboonchi & Lundh, 2002). To a lesser extent, the doubts about actions dimension has also been related to maladjustment (Soenens, Vansteenkiste, Luyten, Duriez, & Goossens, 2005), as well as the parental expectations and the parental criticisms dimensions (Stober, 1998).

Perfectionism, and the thoughts that perfectionists experience, have consistently been linked with a number of negative outcomes (Flett, Hewitt, Blankstein & Gray, 1998).

2.3.1 Depression

Both self-oriented and socially-prescribed perfectionism have been associated with depression (Blatt, Quinlan, Pilkonis & Shea, 1995; Enns, Cox & Clara, 2002; Hewitt & Dyck, 1986; Hewitt, Flett & Turnbull-Donovan, 1992b; Wyatt & Gilbert, 1998). Hewitt and Flett (1991a) found that depressed patients showed a significantly higher level of self-oriented perfectionism. They suggest that self-oriented perfectionists tend to set unrealistically high standards and stringently evaluate their own performance, which in turn increases the frequency of failure and the personal impact of failure experiences. Since self-oriented perfectionists often equate self-worth with performance, consistently not meeting their self-imposed standards may "promote chronic deficits in self-esteem and evaluation" (Hewitt & Flett, 1991a: 100). In other words, they may generate their own failures and stressors, which may make them prone to depression. The same study also found that depressed patients showed

higher levels of socially-prescribed perfectionism than normal control subjects, while other-oriented perfectionism was not seen to be associated with depression (Hewitt & Flett, 1991a). Hewitt, Flett, Ediger, Norton and Flynn (1998) found that perfectionism is important in both chronic and state depression symptoms, while Lynd-Stevenson and Hearne (1999) found that perfectionism was related to depressive affect. Flett et al. (1998) also found that frequent perfectionistic thinking was associated with higher levels of depressive symptomatology. Perfectionism can also have a negative impact on the outcome of therapy for depression (Blatt, Zuroff, Bondi, Sanislow & Pilkonis, 1998).

2.3.2 Eating Disorders

Perfectionism also has an association with both anorexia nervosa and bulimia nervosa. Individuals with anorexia and bulimia have been found to score higher on scales of self-oriented and socially-prescribed perfectionism. Ashby, Kottman and Schoen (1998) found that women with eating disorders scored higher on levels of maladaptive perfectionism compared with control groups (in Slaney, Rice & Ashby, 2002). Davidson (1989) found that both self-oriented and socially-prescribed perfectionism were correlated with Eating Attitudes Test (EAT) scores, indicating that both self-related and socially-related perfectionism may be relevant factors in eating disorder symptoms (in Hewitt et al. 1995). Hewitt et al. (1995) found that self-oriented perfectionism was related to anorexic tendencies and attitudes, while social dimensions of perfectionism were related broadly to eating disorder behaviours. Both Bastiani, Rao, Weltzin and Kaye (1995) and Goldner, Cockell and Srikameswaran (2002) found that even after weight restoration, perfectionism persisted in those who suffered from anorexia - they continued to show obsessional, inflexible thinking. This

association between anorexia and bulimia is thought to be because the core features of anorexia nervosa and bulimia nervosa appear to be inherently perfectionist in nature - both concepts are associated with unrealistic standards (Goldner et al. 2002; Stumpf & Parker, 2000).

2.3.3 Obsessive-Compulsive Symptoms

Perfectionism also has an association with obsessive-compulsive symptoms (Frost et al. 1990; Shafran et al. 2002). Hewitt et al. (1992a) found that individuals with obsessive-compulsive personality disorder had elevated levels of socially-prescribed perfectionism, while Frost and Steketee (1997) found that obsessive-compulsive disorder was associated with higher levels of total perfectionism, concern over mistakes and doubts about actions. This was also found by Antony, Purdon, Huta and Swinson (1998). Bruner et al. (2001) found that maladaptive perfectionists engaged in more checking, indecision, double-checking and doubting behaviours (in Slaney et al, 2002). Two beliefs of those with obsessional thinking are directly related to perfectionism, “(1) one should be perfectly competent, adequate, and achieving in all possible respects in order to be worthwhile and to avoid criticism or disapproval by others or oneself, and (2) making mistakes or failing to live up to one’s perfectionist ideals should result in punishment or condemnation” (Rheaume et al. 1995: 786).

2.3.4 Other Maladaptive Behaviours

Perfection has also been linked to other maladaptive behaviours such as paranoia (Blankstein & Dunkley, 2002), guilt (Hewitt & Flett, 1991b), procrastination (Hewitt & Flett, 1991b), alcoholism (Frost et al. 1990), irrational beliefs (Stumpf & Parker, 2000), neuroticism (Hewitt, Flett & Blankstein, 1991a), feelings of shame

(Stumpf & Parker, 2000), Type A coronary-prone behaviour (Flett, Hewitt, Blankstein & Dynin, 1994; Frost, et al. 1990; Parker & Adkins, 1995), migraine headaches (Frost et al. 1990), low self-esteem (Flett, Hewitt, Blankstein & O'Brien, 1991; Hewitt & Flett, 1991b; Slaney et al, 2002), anxiety (Blankstein et al. 1993; Frost & Di Bartolo, 2002; Hewitt & Flett, 1991a), suicide (Hewitt, Caelin, Flett, Sherry, Collins & Flynn, 2002), and social phobia (Antony et al. 1998; Juster, Heimberg, Frost, Holt, Mattia & Faccenda, 1996; Saboonchi, Lundh & Ost, 1999). Perfectionism has also been related to negative outcomes in therapy, as perfectionists often fail to develop strong therapeutic alliances with their therapist (Zuroff, Blatt, Sotsky, Krupnick, Martin, Sanislow & Simmens, 2000).

2.4 Perfectionism as Adaptive

More recently, perfectionism is also considered to have positive aspects. According to Maslow, striving for perfection through self-actualisation is really an “indication of the absence of neurosis” (Peters, 2005: 3), while Silverman (2005) believes the root of excellence is perfectionism and that this is what urges the individual toward achieving higher goals (in Peters, 2005). Regarding the Frost and colleague’s perspective, the high personal standards and the organisation subscales are typically associated with healthy experiences (Frost et al. 1991; Frost et al. 1990). Regarding the Hewitt and Flett perspective, self-oriented perfectionism and to a lesser extent, other-oriented perfectionism is thought to be associated with adaptive aspects (Flett & Hewitt, 2002b; Flett, Hewitt & De Rosa, 1996).

Ashby, Bieschke, and Slaney (1997) found in a study of self-efficacy in career decision making, that those classed as adaptive perfectionists had significantly higher scores of accurate self-appraisal, goal selection, making plans for the future and

problem-solving (in Slaney et al, 2002). Self-oriented perfectionism has been associated with a number of positive adaptive qualities, including achievement striving, positive affect, high self-esteem, self-efficacy, self-actualisation, resourcefulness, perceived control, adaptive coping with stress, positive appraisals of personal projects, adaptive learning strategies, good academic performance, and positive interpersonal characteristics, such as self-assurance, assertiveness, and altruistic social attitudes (Blankstein & Dunkley, 2002; Burns & Fedewa, 2005). Other-oriented perfectionism has been associated with an elevated level of assertiveness (Flett et al. 1996). The personal standards subscale has been associated with positive achievement striving (Frost & Marten, 1990), goal commitment (Stober, 1998), and efficacy (the belief that one is able to cope with stress) (Frost et al. 1990).

2.5 Positive and Negative Perfectionism

The suggestion that setting high and demanding goals for oneself can either be a positive or negative force in one's life has facilitated the recognition of the concept of two forms of perfectionism, sometimes termed positive perfectionism and negative perfectionism (Campbell & Di Paula, 2002; Flett & Hewitt, 2002b; Peters, 2005; Slaney et al, 2002; Terry-Short et al. 1995).

2.5.1 Positive Perfectionism

Hamachek (1978) argued that perfectionism can be normal and that the striving associated with it may lead to positive adjustment. He described "normal perfectionism" as striving for realistic standards from which a sense of pleasure is derived when results are achieved and self-esteem is enhanced. There is also

acceptance when personal and environmental limitations are encountered. More recently, the similar concept of positive perfectionism (or adaptive or healthy perfectionism) has increasingly been referred to. This refers to perfectionist behaviour in which the individual has a willingness to approach stimuli, and strives to achieve high standards. This results in rewarding outcomes, which enhances self-esteem and self-satisfaction. The individual sets high goals and personal standards, and strives for the rewards associated with achievement, while retaining the ability to be satisfied with one's performance (Accordino, Accordino & Slaney, 2000; Blackburn, 2003; Davis, 1997; Hamachek, 1978; Rheume, Freeston, Ladouceur, Bouchard, Gallant, Talbot & Vallieres, 2000). This sense of pleasure in accomplishment generates positive affect, which reflects the extent a person feels enthusiastic, active and alert (high positive affect reflects a state of high energy, full concentration, and pleasurable engagement, whereas low positive affect is characterized by sadness and lethargy). Positive affect has been shown to be related to social activity and satisfaction, and to the frequency of pleasant events (Watson, Clark & Tellegen, 1988). Positive perfectionism is seen as being more adaptive, as it encourages positive and active striving toward goals and the individual is able to regulate their perfectionism. It is therefore associated with high achievement and positive affect (Flett & Hewitt, 2002b).

2.5.2 Negative Perfectionism

In contrast, Hamachek (1978) also described “neurotic perfectionism”. This is when an individual strives for excessive and unrealistically high standards, and is overly critical and evaluative of their own behaviour (Frost et al. 1990). They are motivated by a fear of failure and are unable to feel satisfaction if even the tiniest flaw

occurs. They also experience uncertainty and anxiety about their own capabilities. This is in contrast with normal perfectionists who allow minor flaws in their performance while still accepting it as successful (Flett & Hewitt, 2002b; Hamachek, 1978; Pacht, 1984; Parker & Adkins, 1995). As with positive perfectionism, there has increasingly been references to negative perfectionism (or maladaptive perfectionism), which involves avoiding aversive outcomes. Often, because of assumptions about the expectations that others hold, the individual strives for standards that are unattainable. They are motivated by a fear of failure, and often social criticism. This form of perfectionism is self-defeating, as fear of failure and worrying still occurs even when standards have been met (Blackburn, 2003). Negative perfectionism is largely unregulated, and is associated with adverse and punishing outcomes (Blackburn, 2003; Flett & Hewitt, 2002b; Lynd-Stevenson & Hearne, 1999). This disposition generates from negative affect, a “dimension of subjective distress...that subsumes a variety of aversive mood states, including anger, contempt, disgust, guilt, fear, and nervousness” (Watson et al. 1988: 1063). Negative affect is a mixture of anxiety and depression symptoms (Frost & Di Bartolo, 2002). Research has shown that negative affect, but not positive affect, is related to self-reported stress, poor coping, health complaints, and frequency of unpleasant events (Watson et al. 1988). Negative perfectionism is therefore associated with failure, and negative affect. It has been suggested by Parker (2002) that “healthy and unhealthy perfectionism appear not to be poles of one continuum, but distinct, independent factors that are embedded in the personality in different ways” (Parker, 2002: 142).

2.6 Academic Achievement

An association between perfectionism and academic achievement has been

found. Although both adaptive and maladaptive perfectionists strive to achieve, it is thought that maladaptive perfectionism has a negative impact on academic achievement, while adaptive perfectionism can have a positive impact. Blankstein and Dunkley (2002) suggest that socially-prescribed perfectionism has been associated with maladaptive learning strategies, while Arthur and Hayward (1997) found that socially-prescribed perfectionism in first year tertiary students was associated with lower academic achievement. Conroy (2003) has suggested that a fear of failure in perfectionists has been associated with problems in achievement. Kottman et al. (1999) suggested that maladaptive perfectionists may be more inclined to use social comparison as a measure of achievement, and be motivated by a fear of failure, which may negatively affect academic importance (in Slaney et al, 2002).

On the other hand, adaptive perfectionism is thought to have a positive association with achievement. Braver (1996) examined the relationship between achievement and the revised Almost Perfect Scale (the APS-R) in undergraduate students. The personal standards score was found to be positively related to GPA and SAT scores, as well as significantly predicting academic achievement (in Slaney et al, 2002). Flett, Sawatzky and Hewitt (1995b) also found an association between high personal standards and high academic achievement at school. Additionally, a study by Accordino et al. (2000) found that high personal standards was positively and significantly associated with GPA, and supports the idea that students with adaptive forms of perfectionism tend to have higher levels of achievement. Regarding the Flett and Hewitt perspective, self-oriented perfectionism is seen as the most relevant to achievement-related outcomes at school (Blankstein & Dunkley, 2002).

2.7 Achievement Motivation

Earlier literature describes the theory of achievement motivation as attempting to “account for the determinants of the direction, magnitude, and persistence of human behavior in activities in which the individual believes his performance will be evaluated (by himself or others) against some standard of excellence and where the outcome is clearly one of success or failure” (Weinstein, 1969: 153). Recently, achievement motivation is described as “an individual’s tendency to desire and work toward accomplishing challenging personal and professional goals” (Byrne, Mueller-Hanson, Cardador, Thornton, Schuler, Frintrup, & Fox, 2004: 204), and to excel in the eyes of beholders or oneself (Meijer & Van Den Wittenboer, 2004). It is assumed that the main goal operating in achievement motivation is the desire to demonstrate high ability in order to feel competent (Gerslov, 1995). An achievement goal framework has been proposed consisting of mastery, performance-avoidance and performance-approach goals. Mastery goals focus on developing competence or being able to master a task, and it is thought that a “need for achievement” motive underlies this type of goal, as the individual is guided towards success. Performance-avoidance goals are said to be driven by a fear of failure, so the individual focuses on the possibility of failure. The goals that they therefore adopt allow them to avoid failure. Performance-approach goals focus on achieving competence in comparison with peers, and can be driven by either an underlying need for achievement (they may partake in a task to be able to compete against others to prove their ability), or a fear of failure (they may strive for success because if success is achieved, failure is consequently avoided) (Neumeister, 2004).

Neumeister (2004) has suggested that the achievement motives in perfectionists determine whether the perfectionist tendencies are maladaptive or not.

It is suggested that performance goals based on the desire to outperform others may have a detrimental outcome on motivation, and may lead to maladaptive behaviours (for example, avoiding challenging tasks) (Dai, Moon, & Feldhusen, 1998 in Neumeister, 2004), while perfectionist behaviours rooted in a need for achievement motives and mastery goals for learning the material may not be unhealthy, as these motives stimulate further motivation to achieve.

Positive aspects of perfectionism have been associated with achievement motivation. Historically, Entwistle (1972) suggested that achievement motivation has been linked to school achievement in college students. Accordino's study of the relationship between the APS-R and achievement found that the high standards scale significantly predicted achievement motivation (in Slaney et al, 2002). Frost and Marten (1990) also found a positive association with positive achievement striving. Self-oriented perfectionism has been associated with positive achievement striving. Mills and Blankstein (2000) found that self-oriented perfectionists demonstrated using a number of adaptive cognitive learning strategies (in Neumeister, 2004). Neumeister (2004) found that self-oriented perfectionists had an underlying motive to achieve, rather than to avoid failure, which influenced them to set mastery goals, and adopt healthy achievement motivation strategies such as seeking out challenges, time management and asking for help.

On the other hand, negative aspects of perfectionism have been associated with lower achievement motivation. Blankstein and Dunkley (2002) found an association between socially-prescribed perfectionism and maladaptive motivation. This is suggested to be because socially-prescribed perfectionists are largely motivated by fear of failure rather than an intrinsic motivation to achieve, which has an influence on their goals and behaviour with regard to their academic achievement.

Unhealthy achievement motivation strategies are often adopted such as performance-avoidance goals, in order to avoid revealing their incompetence in an area (for example, procrastination). They may also set performance-approach goals, although these are likely to be based on a fear of failure (Neumeister, 2004).

2.8 Personality Factors

The “Big Five” model of personality, which includes **neuroticism**, **extraversion**, **openness to experience**, **agreeableness**, and **conscientiousness**, has been related to perfectionism, these relationships being differential (Parker & Stumpf, 1995). Generally, socially-prescribed perfectionism has been related to maladaptive personality factors, while other-oriented perfectionism has been related to adaptive personality factors. Self-oriented perfectionism has been related to both adaptive and maladaptive aspects.

Hill, McIntyre, and Bacharach (1997) found that socially-prescribed perfectionism was strongly related to neuroticism, in particular depression, while there was no association between socially-prescribed perfectionism and any of the adaptive personality traits (in Enns & Cox, 2002). The relationship between socially-prescribed perfectionism and neuroticism was replicated by Enns and Cox (2002), as well as finding a strong negative correlation between agreeableness and conscientiousness, which suggests a maladaptive role by this type of perfectionism. Hewitt et al. (1991a) also found that socially-prescribed perfectionism was associated with higher levels of neuroticism in both males and females.

Hill, McIntyre, and Bacharach (1997) found that other-oriented perfectionism was correlated with conscientiousness (Enns & Cox, 2002), as well as being associated with more self-confidence (Bieling, Israeli & Antony, 2004).

Hill, McIntyre, and Bacharach (1997) found that self-oriented perfectionism had a small correlation with neuroticism, in particular anxiety and angry hostility, which reflect maladaptive aspects (Enns & Cox, 2002). However, self-oriented perfectionism is generally considered to be associated with more adaptive consequences, such as conscientiousness (Bieling, Israeli & Antony, 2004; Habke & Flynn, 2002). Hill, McIntyre, and Bacharach (1997) found that achievement striving, dutifulness, and self-discipline were contributors to the strong relationship between self-oriented perfectionism and conscientiousness.

Regarding Frost and colleague's perspective, Ashby, Slaney and Maigne (1996) found that the adaptive components of perfectionism (i.e. the personal standards and organisation scales) were associated with conscientiousness, while the scales representing the maladaptive components of perfectionism (i.e. discrepancy, anxiety, and procrastination) were associated with neuroticism (in Slaney et al, 2002).

2.9 Stress and Coping

2.9.1 Stress

It is commonly believed that perfectionists experience a higher degree of stress, compared with non-perfectionists. Hewitt and Flett (2002) suggest that perfectionists, relative to non-perfectionists, are exposed to a greater number of stressful events simply as a result of their unrealistic approach to life. As well as the usual stressors that can occur to any normal person, perfectionists also produce stressors, because they seek perfection in many, if not all, spheres of behaviour. Perfectionistic behaviour can generate stress that stems partly from the perfectionist's tendencies to stringently evaluate themselves and others, focus on negative aspects of performance, and experience little satisfaction. Hewitt and Flett (2002) suggest that

perfectionists have a difficult time accepting failure, and have strong negative reactions to the actual or perceived experience of stressful events. The presence of perfectionism serves to enhance or intensify the negative impact of stress, which may lead to maladjustment (Hewitt & Flett, 2002). Blankstein and Dunkley (2002) also suggest that perfectionists experience a high amount of stress as they can unrealistically appraise ordinary events as though they are distressing, while Flett et al. (2002) suggest that perfectionists have characteristics that will lead to stress enhancement, and the generation of stress.

The different dimensions of perfectionism are also thought to impact on stress differentially - maladaptive dimensions increase stress, while adaptive dimensions can impact positively on stress. Braver (1996) found that in undergraduate students, those that scored highly on the personal standards scale, which is commonly thought of as a positive dimension, reported the lowest levels of distress (in Slaney et al, 2002).

2.9.2 Coping

In light of this relationship between perfectionism and stress, coping has received an increasing amount of attention. Generally, there are two forms of coping. Problem-focused coping aims to alter the source of the stress (a problem solving method), while emotion-focused coping aims to reduce or manage the emotion distress associated with the stress. When people feel that something constructive can be done, problem-focused methods are often used, while when the stressor appears to be something to be endured, emotion-focused methods are often employed (Carver, Scheier & Weintraub, 1989). Carver et al. (1989) proposed a series of coping dimensions. **Active coping** involves taking steps to remove or minimize the effects (for example, initiating direct action); **planning** involves thinking about how to cope

with a stressor (for example, coming up with action strategies); **suppression of competing activities** involves trying to avoid being distracted by other activities and focusing on the stressor; **restraint coping** involves waiting until the appropriate time to act; **seeking social support for instrumental reasons** involves seeking information or advice; **seeking social support for emotional reasons** involves seeking moral support, sympathy or understanding; **positive reinterpretation and growth** involves managing the distress emotions rather than dealing with the stressor itself; and **turning to religion** involves an increased engagement in religious activities. These coping strategies are thought of as functional and as positive methods of coping. The following are seen as dysfunctional and are thought to impede adaptive coping: **behavioural disengagement**, which involves reducing efforts to deal with the stressor; **mental disengagement**, which involves activities that distract the individual from thinking about the stressor; **alcohol / drug use**; and **denial**, which involves denying there is a problem. Some of the coping strategies can be seen as both positive and negative. These include **focusing on and venting emotions** which involves the tendency to focus on the distress the individual is experiencing and to air those feelings; **humour** which involves using humour to cope with the stress; and **acceptance** of the situation (Carver et al. 1989).

It is thought that negative perfectionists generally use more maladaptive forms of coping strategies when attempting to deal with stressful circumstances, while positive perfectionists use more adaptive coping strategies (Burns & Fedewa, 2005). A study by Flett, Hewitt, Blankstein, Solnik and Van Brunschot (1996) found that self-oriented perfectionism and other-oriented perfectionism were associated with positive problem solving orientations. A study by Flett, Russo and Hewitt (1994) found that socially-prescribed perfectionism was associated with less adaptive coping

and more maladaptive coping strategies, while the study by Flett, Hewitt, Blankstein, Solnik and Van Brunschot (1996) found that socially-prescribed perfectionism was associated with negative problem solving orientations (in Hewitt & Flett, 2002).

Rice and Lapsley (2001) have found that those classed as adaptive perfectionists reported greater use of problem-focused coping, and less use of dysfunctional coping compared with maladaptive perfectionists. They believe that “the organizational features of adaptive perfectionism dispose a person to adopt the sort of planning and other active coping activities that are characteristic of problem-focused coping” (Slaney et al, 2002: 77). Additionally, A study by Edge et al. (2001) found that adaptive perfectionists had significantly lower scores on immature defences such as denial, acting out, passive aggression and projection compared with maladaptive perfectionists (in Slaney, Rice & Ashby, 2002). Flett et al. (1994) have also examined perfectionism with respect to coping responses. They found that self-oriented perfectionism was correlated with aspects of behavioural coping and was significantly related to the global behavioural coping scale. Other-oriented perfectionism was similarly related to coping.

Studies suggest that self-oriented perfectionism may involve both adaptive and maladaptive coping strategies. It has been suggested that although self-oriented perfectionists may use generally adaptive coping strategies, using those strategies in certain situations may actually accentuate distress because they may put a great deal of effort into tasks that are irrelevant or unimportant - they may not know when to stop the task focus, or use strategies in inappropriate situations (Hewitt & Flett, 2002).

Socially-prescribed perfectionism has been negatively related to both emotional and behavioural coping. It has been found to be highly dependent on avoidant behaviour, which is the source of many negative behaviours (in Burns &

Fedewa, 2005). Hewitt, Flett and Endler (1995) found that socially-prescribed perfectionism was associated with decreased social diversion (a form of coping that involves seeking people out in order to deal with problems) (in Hewitt & Flett, 2002). Flett, Blankstein, Hewitt and Obertynski (1994) found that socially-prescribed perfectionism was associated with low support from family, friends and significant others (in Hewitt & Flett, 2002). This was also found by Hewitt, Flynn, Flett, Nielsen, Parking, Han and Tomlin (2001) (in Hewitt & Flett, 2002). Socially-prescribed perfectionism was associated negatively with ratings of comfort in seeking help and positively with ratings of difficulty continuing with treatment. These findings support the idea that people who score high on perfectionism traits tend to be less open to seeking professional help for psychological problems, and that perfectionism can have a deleterious influence on the continuation of treatment for those who actually receive help (Hewitt & Flett, 2002).

Carver et al. (1989) found that functional coping strategies are linked to beneficial personality qualities, while less functional coping strategies are associated with less beneficial personality qualities. They suggested that optimism is associated with active coping strategies, while pessimism is associated with focus on emotional distress and with disengagement. In light of this, it makes sense that positive perfectionism is associated with positive and more adaptive coping strategies, while negative perfectionism associated with negative and more maladaptive coping strategies.

2.10 This Study

This study is intended to investigate the relationships between positive and negative perfectionism and a range of variables, especially how a person's level of

perfectionism interacts with other individual attributes. It will investigate the relationships between these two types of perfectionism, and the following: academic achievement; achievement motivation; depression, anxiety and stress; coping strategies and personality factors, namely the “Big Five” factors.

2.10.1 Hypotheses

In light of the past research, it is hypothesized that those who are identified being high in positive perfectionism will have higher academic achievement levels, will have higher levels of motivation to achieve, will have lower levels of depression, anxiety and stress, will have better and more active coping skills, and will score higher on positive personality traits, compared with negative perfectionists.

In accord with this hypothesis, those who are identified as high in negative perfectionism are hypothesized to have lower achievement levels, to have lower levels of achievement motivation, to have higher levels of depression, anxiety and stress, to use more maladaptive coping strategies, and to score higher on negative personality traits, compared with positive perfectionists.

2.10.2 Rationale

Contemporary research has shown that there are two forms of perfectionism - one of which can be maladaptive. If this study can provide evidence that negative perfectionism can have a detrimental effect on student's academic performance, motivation to achieve, and general well-being, then it may explain why some students are underachieving even if they have the best of intentions to achieve, or have the potential to do well. It may also aid in helping these students to get past their maladaptive perfectionism, so they can become more academically successful and

well rounded. In addition, if this study can provide evidence that positive perfectionism can be adaptive and may in fact have a positive influence on academic achievement, motivation, and stress and coping, this will provide further evidence of the distinction between positive and negative perfectionism, and that not all perfectionism is maladaptive.

3. Research Design and Methods

3.1 Participants and Recruitment

Participants were 99 first year tertiary students, 71 from classes at the University of Canterbury, and 28 from classes at the Christchurch College of Education.

320 copies of the consent form, information sheet and the set of questionnaires to be used were printed (see appendix 8.1, 8.2 and 8.3 respectively). These were then handed out at the two tertiary institutions previously mentioned. Before the questionnaires were handed out, the students were given a brief oral overview of the research project, and told they could contact the researcher if they had any questions. They were also informed that if they took part in the research, they would go into a draw to win one of three \$50 vouchers.

3.1.1 University of Canterbury students

First year psychology students were recruited at their psychology 106 laboratory classes. The researcher attended thirteen of these lab classes and handed out the consent form, information sheet and questionnaires (after arranging this with the teaching assistants). The students then returned the completed questionnaires and consent forms to a drop box in the undergraduate laboratory. Forty-two students were recruited from these classes (a 31% response rate). First year psychology students were also recruited in a similar study in 2004. These students did not complete one of the questionnaires used, so they were contacted and asked if they would complete this additional measure. Twenty-nine students did so, and were included in this study (an 83% response rate).

First year sociology students were recruited by attending one of their lectures, and handing out the consent form, information sheet and questionnaires (after arranging this with the teaching assistant). The students then returned these to their teaching assistant, which the researcher then collected. However, only one sociology student was recruited (a 10% response rate).

3.1.2 College of Education students

First year early childhood and primary teaching students were recruited by attending one of their lectures, and handing out the consent form, information sheet and questionnaires (after arranging this with the Directors of these courses). The researcher then attended two lectures the following week in order to collect the completed questionnaires. After that, the students returned them to their year one course administrator. Twenty-five early childhood and primary teaching students were recruited (a 54% response rate).

First year students from the school of business were recruited by attending one of their lectures, and handing out the consent form, information sheet and questionnaires (after arranging this with the director of the school of business). The students then returned the completed questionnaires to the reception of the school of business. Three students from the school of business were recruited (a 10% response rate).

3.2 Measures

The following measures were included in the set of questionnaires given to the participants:

3.2.1 *Frost Multidimensional Perfectionism Scale (MPS)*

This is a 35-item self-report measure of perfectionism developed by Frost et al. (1990). As well as providing a total perfectionism score, this measure has six subscales. The **concern over mistakes** scale (CM) reflects a tendency to interpret mistakes as failure and to believe that one will lose the respect of others following failure (for example, “People will probably think less of me if I make a mistake”). The **parental criticism** scale (PC) reflects the perception of one’s parents as overly critical (for example, “I never felt like I could meet my parents standards”). The **parental expectations** scale (PE) reflects the perception that ones parents set very high goals (for example, “My parents wanted me to be the best at everything”). The **personal standards** scale (PS) reflects the setting of extremely high standards by the individual (for example, “I hate being less than the best at things”). The **doubts about actions** scale (D) reflects the extent the individual doubts their ability to accomplish tasks (for example, “I usually have doubts about the simple everyday things I do”). The **organization** scale (O) reflects the excessive importance placed on orderliness (for example, “Organization is very important to me”) (Flett et al. 1995b; Frost et al. 1993; Frost et al. 1991; Frost & Marten, 1990). Participants respond to a 5-point scale indicating the extent each statement is true, ranging from “strongly disagree” to “strongly agree”.

A **positive perfectionism** score is found by adding the personal standards and organization subscale scores, while a **negative perfectionism** score is found by

adding the other four subscales (concern over mistakes, parental expectations, parental criticism, and doubts about actions). A total perfectionism score is found by adding all of the scales, except for the organization scale, since Frost et al. (1990) found that this subscale is only weakly correlated with the other subscales and the total score (Parker, 2002; Parker & Adkins, 1995). This measure has been found to have good evidence of construct, concurrent and discriminant validity, and good internal consistency. Frost et al. (1990) reported an internal reliability for the MPS using Cronbach's α of 0.90, with scores for the six subscales ranging from 0.77 to 0.93.

3.2.2 Short form of the Ray Achievement Orientation Scale (Ray AO)

This is a 14-item self-report measure of achievement motivation, based on the Ray Achievement Orientation Scale, which has 28 questions (Ray, 1979; Ray, 1980; Ray, 1982). This scale is worded for occupation, so five of the questions were changed slightly to allow them to be used for tertiary students. For example, the question "Are you satisfied to be no better than most other people at your job?" was changed to "Are you satisfied to be no better than most other people at what you do?" The short form of the Ray AO Scale is said to be consistently reliable internationally, and to have validity (Ray, 1979).

3.2.3 NEO Personality Inventory.

This is 50-item self-report measure of five personality factors (the "Big Five") developed by Costa and McRae, which has been used previously in cross-sectional research relating perfectionism to personality factors (Campbell & Di Paula, 2002). Subjects respond to each statement on a 5-point scale ranging from "very inaccurate"

to “very accurate”. The five personality factors measured are **extraversion** (for example, “Am the life of the party”), **agreeableness** (for example, “Am interested in people”), **conscientiousness** (for example, “Pay attention to details”), **neuroticism** (for example, “Get stressed out easily”), and **openness to experience** (for example, “Spend time reflecting on things”) (Costa & McRae, 1992; Marshall, De Fruyt, Rolland & Bagby, 2005). An additional measure was included, the composite order score, which measures the level of orderliness an individual has.

3.2.4 Positive and Negative Affect Schedule (PANAS).

This is a 20-item self-report mood scale developed by Watson et al. (1988) measuring **positive affect** and **negative affect**. It assesses the disposition to experience negative or positive mood states. **Positive affect** reflects feelings of energy, enthusiasm, and activity, while **negative affect** reflects feelings of anger, fear and guilt. The positive scale includes 10 adjectives describing positive moods (interested, excited, strong, enthusiastic, proud, alert, inspired, determined, attentive and active). The negative scale includes 10 adjectives describing negative moods (distressed, upset, guilty, scared, hostile, irritable, ashamed, nervous, jittery and afraid). Subjects respond to a five-point scale, indicating the extent the adjective describes their feelings, from “very slightly or not at all” to “extremely” (Frost et al. 1993; Watson et al. 1988). This measure has been shown to be “a reliable, valid, and efficient means for measuring [positive and negative affect]” (Watson et al. 1988: 1069).

3.2.5 Depression, Anxiety and Stress Scale (DASS).

This is a 42-item self-report scale that measures **depression, anxiety** and **stress** developed by Lovibond and Lovibond (1995). Subjects rate the extent to which they have experienced each symptom over the past week (for example, depression - “I felt downhearted and blue”; anxiety - “I felt I was close to panic”; stress - “I found it difficult to relax”). This is done on a 4-point severity/frequency scale, from “very inaccurate” to “very accurate”. Separate scores for **depression, anxiety**, and **stress** are then determined by summing the scores for the relevant 14 items. This measure has been described as having adequate convergent and discriminant validity and as a reliable and valid measure of psychopathology (Crawford & Henry, 2003; Lovibond & Lovibond, 1995). Antony, Bieling, Cox, Enns and Swinson (1998) suggest that this measure provides a better separation of the features of anxiety and depression, relative to other measures. Interpretation of this measure is based on cut-off scores. Lovibond and Lovibond (1995) classify those in the range of 0-78 as “normal”, 78-87 as “mild”, 87-95 as “moderate”, 95-98 as “severe” and 98-100 as “extremely severe”.

3.2.6 The COPE.

This is a 60-item self-report measure for assessing positive and negative coping, developed by Carver et al. (1989), which includes 15 scales. These are **active coping** (for example, “I take additional action to try to get rid of the problem”), **planning** (for example, “I make a plan of action”), **seeking instrumental social support** (for example, “I try to get advice from someone about what to do”), **seeking emotional social support** (for example, “I discuss my feelings with someone”), **suppression of competing activities** (for example, “I put aside other activities in order to concentrate on this”), **turning to religion** (for example, “I put my trust in

God”), **positive reinterpretation and growth** (for example, “I look for something good in what is happening”), **restraint coping** (for example, “I restrain myself from doing anything too quickly”), **acceptance** (for example, “I get used to the idea that it happened”), **focus on and venting of emotions** (for example, “I get upset and let my emotions out”), **denial** (for example, “I refuse to believe that it has happened”), **mental disengagement** (for example, “I daydream about things other than this”), **behaviour disengagement** (for example, “I admit to myself that I can’t deal with it, and give up trying”), **alcohol or drug use** (for example, “I use alcohol or drugs to make myself feel better”), and **humour** (for example, “I make jokes about it”). It has an adequate test-retest reliability and validity, and high internal consistency. These coping strategies were divided into functional and dysfunctional coping. The **functional coping** score included the active coping, planning, seeking instrumental social support, seeking emotional social support, suppression of competing activities, turn to religion and restraint coping subscales. The **dysfunctional coping** score included the denial, mental disengagement, behavioural disengagement and alcohol or drug use subscales. The acceptance, focus on and vent emotions and humour subscales were not included as these are suggested to be both functional and dysfunctional forms of coping, depending on the circumstances (Carver et al. 1989).

3.2.7 Demographic and Academic Information

As well as completing the set of questionnaires, the participants were also asked to give consent for the researcher to access their academic records in order to extract demographic and academic information. The demographic information collected included birth date (in order to determine the participant’s age), gender and ethnicity. Academic information collected included the high school attended (in order

to determine the decile rating of the school), the highest high school qualification obtained, and a measure of first year tertiary achievement (GPA). The academic records for the university students did not include information on ethnicity or high school attended, so these students were emailed to ask for this information. Fifty-five students provided this information. The academic records for the students provided by the College of Education did not include transcripts with a first year grade, so these participants were not included in the analyses involving GPA.

4. Results

4.1 Demographic Information

4.1.1 Gender

The majority of the participants were female (85% were female and 15% were male). From the University of Canterbury, 82% were female and 18% were male, while from the College of Education, 93% were female and 7% were male.

4.1.2 Age

Overall, the ages of the participants ranged from 18 years old to 49 years old, with a mean of 23.2 years old, and a standard deviation of 8.07. From the University of Canterbury, the ages of the participants ranged from 18 years old to 48 years old, with a mean of 21.8 years old and a standard deviation of 7.07. From the College of Education, the ages of the participants ranged from 18 years old to 49 years old, with a mean of 26.96 years old and a standard deviation of 9.46 (see Table 1).

	Mean	SD	Minimum	Maximum
Age - All Participants	23.2	8.07	18	49
Age - University of Canterbury Students	21.8	7.07	18	48
Age - College of Education Students	26.96	9.46	18	49
GPA - University of Canterbury Students	5.25	1.72	0.57	8.67

Table 1: Means, Standard Deviations, Minimums and Maximums for Ages of Participants and Grade Point Average

4.1.3 Ethnicity

The majority of the participants in this study identified themselves as New Zealand / European (87%). 8% identified themselves as New Zealand / Maori, 1% identified themselves as New Zealand / European / Samoan, 1% identified themselves as Jewish, 1% identified themselves as Chinese / Indonesian, 1% identified themselves as New Zealand / Tamil, and 1% identified themselves as New Zealand / European / Indian. This is illustrated in Figure 1.

Figure 1: Graph Showing Ethnicity of Participants

4.1.4 Highest Secondary School Qualification Obtained

Figure 2 shows the highest secondary school qualification obtained by the participants, in percentages. 2% have no secondary school qualification, 6% obtained school certificate, 9% obtained sixth form certificate, 9% obtained higher school certificate, 15% obtained university entrance, 15% obtained a 'B' bursary, 12% obtained an 'A' Bursary, 1% obtained year 12 matriculation?, 4% obtained NCEA level 2, 24% obtained NCEA level 3, and 3% had a highest secondary school qualification from overseas.

Figure 2: Graph Showing the Highest Secondary School Qualification Obtained by Participants

4.1.5 Decile Rating of High School Attended

8% of the participants came from decile 10 schools, 14% came from decile 9 schools, 16% came from decile 8 schools, 20% came from decile 7 schools, 19% came from decile 6 schools, 3% came from decile 5 schools, 5% came from decile 4

schools, 1% came from decile 3 schools, 3% came from decile 2 schools, and 11% came from schools where the decile rating was not known. This is illustrated in Figure 3. The distribution of decile ratings was unimodal, and was negatively skewed, with the majority of the participants coming from the higher decile schools.

Figure 3: Graph Showing the Decile Ratings of the High Schools Attended by Participants

4.1.6 Grade Point Average (GPA)

Only the University of Canterbury students were included in these analyses, as a first year tertiary grade was unable to be obtained for the College of Education students. The Grade Point Averages ranged from 0.57 to 8.67, with a mean of 5.25 and a standard deviation of 1.72 (see Table 1). The distribution of the GPA's were slightly negatively skewed.

4.2 Descriptive Statistics for the Questionnaire Measures

4.2.1 Multidimensional Perfectionism Scale (MPS)

Table 2 summarises the descriptive statistics for the Multidimensional Perfectionism Scale. The mean for concern over mistakes was 21.41, with a standard deviation of 7.3, a minimum of 9 and a maximum of 38. The mean was similar to that found in previous studies (19.7 in the Frost et al (1991) study, and 22.8 in the Flett et al (1995b) study). The standard deviation was very close to that found in these previous studies (7.1 and 7.4, respectively). The distribution was slightly positively skewed.

The mean for personal standards was 22.63, with a standard deviation of 5.72, a minimum of 9 and a maximum of 35. The mean was slightly lower, compared with

previous studies (25.9 in the Frost et al (1991) study, and 23.54 in the Flett et al (1995b) study). The standard deviation was similar to that obtained in these studies (5.3 and 5.48, respectively). The distribution was slightly negatively skewed. The mean for parental expectations was 13.03, with a standard deviation of 4.87, a minimum of 5 and a maximum of 25. The mean was slightly lower, compared with previous studies (14.7 in the Frost et al (1991) study, and 15.42 in the Flett et al (1995b) study). The standard deviation was very similar to that found in these previous studies (4.5 and 5.14, respectively). The distribution was slightly positively skewed.

The mean for parental criticisms was 8.03, with a standard deviation of 3.64, a minimum of 4 and a maximum of 20. The mean was in-between the means found in previous studies (6.8 in the Frost et al (1991) study and 10.08 in the Flett et al (1995b) study). The standard deviation was similar to that found in these previous studies (3.2 and 4.43, respectively). The distribution was strongly positively skewed.

The mean for doubts about actions was 10.53, with a standard deviation of 3.01, a minimum of 4 and a maximum of 18. The mean was similar to that found in previous studies (9.4 in the Frost et al (1991) study, and 10.85 in the Flett et al (1995b) study). The standard deviation was very similar to these previous studies (3.0 and 3.27, respectively). The distribution was approximately normal.

The mean for organisation was 21.51, with a standard deviation of 4.89, a minimum of 8 and a maximum of 30. The mean was slightly lower than that found in previous studies (23.2 in the Frost et al (1991) study, and 22.79 in the Flett et al (1995b) study). The standard deviation was also slightly lower than these previous studies (5.6 and 5.53, respectively). The distribution was slightly negatively skewed.

The mean for positive perfectionism was 44.13, with a standard deviation of 8.7, a

minimum of 17 and a maximum of 61. The distribution was slightly negatively skewed.

The mean for negative perfectionism was 53, with a standard deviation of 14.75, a minimum of 25 and a maximum of 100. The distribution was slightly positively skewed.

The mean for total perfectionism was 81.96, with a standard deviation of 20.53, a minimum of 40 and a maximum of 156. The mean was slightly higher than that found in the Frost et al (1991) study (76.4). The standard deviation was also higher (17.1). The distribution was slightly positively skewed.

Measure	Mean	SD	Minimum	Maximum
Concern over mistakes	21.41	7.3	9	38
Personal Standards	22.63	5.72	9	35
Parental Expectations	13.03	4.87	5	25
Parental Criticisms	8.03	3.64	4	20
Doubts About Actions	10.53	3.01	4	18
Organisation	21.51	4.89	8	30
Positive Perfectionism	44.13	8.7	17	61
Negative Perfectionism	53	14.75	25	100
Total Perfectionism	81.96	20.53	40	156

Table 2: Means, Standard Deviations, Minimums and Maximums of the Multidimensional Perfectionism Subscale Scores

4.2.2 Ray Achievement Orientation Scale (Ray AO)

The mean for the Ray Achievement Orientation Scale was 33.56, with a standard deviation of 4.56, a minimum of 21 and a maximum of 42 (see Table 3). The mean was very similar to the means obtained in studies carried out in Glasgow, London and Sydney (31.33, 32.45 and 31.44, respectively). The standard deviation was also very similar (5.64 for the Glasgow study, 5.71 for the London study, and 5.83 for the Sydney study) (Ray, 1979). The distribution was slightly negatively skewed.

Measure	Mean	SD	Minimum	Maximum
Ray AO	33.56	4.56	21	42

Table 3: Mean, Standard Deviation, Minimum and Maximum of the Ray Achievement Orientation Scale Scores

4.2.3 NEO Personality Inventory (NEO PI)

Table 4 summarises the descriptive statistics for the NEO Personality Inventory. The mean for extraversion was 33.32, with a standard deviation of 7.64, a minimum of 16 and a maximum of 50. The distribution was approximately normal. The mean for agreeableness was 41.63, with a standard deviation of 4.9, a minimum of 21 and a maximum of 50. The distribution was negatively skewed. The mean for conscientiousness was 35.7, with a standard deviation of 6.46, a minimum of 19 and a maximum of 50. The distribution was approximately normal. The mean for neuroticism was 29.3, with a standard deviation of 7.62, a minimum of 10 and a maximum of 47. The distribution was approximately normal. The mean for openness to experience was 37.44, with a standard deviation of 5.55, a minimum of 24 and a maximum of 50. The distribution was approximately normal.

Measure	Mean	SD	Minimum	Maximum
Extraversion	33.32	7.64	16	50
Agreeableness	41.63	4.9	21	50
Conscientiousness	35.7	6.46	19	50
Neuroticism	29.3	7.62	10	47
Openness to Experience	37.44	5.55	24	50

Table 4: Means, Standard Deviations, Minimums and Maximums of the NEO Personality Inventory Scores

4.2.4 Composite Order Score

The mean of the composite order score was 31.75, with a standard deviation of 6.3, a minimum of 18 and a maximum of 47 (see Table 5). The distribution was slightly positively skewed.

Measure	Mean	SD	Minimum	Maximum
Composite Order Score	31.75	6.3	18	47

Table 5: Mean, Standard Deviation, Minimum and Maximum of the Composite Order Score

4.2.5 Positive and Negative Affect Scale (PANAS)

Table 6 summarises the descriptive statistics for the Positive and Negative Affect Scale. The mean for positive affect was 33.78, with a standard deviation of 6.82, a minimum of 13 and a maximum of 49. The mean and standard deviation were both very similar to that obtained in previous research (32.0 and 7.0, respectively, in the Watson et al (1988) study). The distribution was slightly negatively skewed. The mean for negative affect was 19.73, with a standard deviation of 6.91, a minimum of 11 and a maximum of 42. The mean and standard deviation were both very similar to that obtained in previous research (19.5 and 7.0, respectively, in the Watson et al (1988) study). The distribution was positively skewed.

Measure	Mean	SD	Minimum	Maximum
Positive Affect	33.78	6.82	13	49
Negative Affect	19.73	6.91	11	42

Table 6: Means, Standard Deviations, Minimums and Maximums of the Positive and Negative Affect Scale Scores

4.2.6 Depression, Anxiety and Stress Scale (DASS)

Table 7 summarises the descriptive statistics for the Depression, Anxiety and

Stress Scale. The mean for depression was 6.71, with a standard deviation of 5.6, a minimum of 0 and a maximum of 25. The mean was similar to the means obtained in previous studies (7.19 in the Lovibond and Lovibond (1995) study, and 5.55 in the Crawford and Henry (2003) study). The standard deviation was slightly smaller than what was obtained in these previous studies (6.54 and 7.48, respectively). The distribution was strongly positively skewed.

The mean for anxiety was 4.07, with a standard deviation of 4.73, a minimum of 0 and a maximum of 31. The mean was similar to the means obtained in previous studies (5.23 in the Lovibond and Lovibond (1995) study, and 3.56 in the Crawford and Henry (2003) study). The standard deviation was also very similar to that obtained in these previous studies (4.83 and 5.39, respectively). The distribution was strongly positively skewed.

The mean for stress was 8.32, with a standard deviation of 6.51, a minimum of 0 and a maximum of 31. The mean was slightly lower than the means found in previous studies (10.54 in the Lovibond and Lovibond (1995) study, and 9.27 in the Crawford and Henry (2003) study). The standard deviation was quite similar to that obtained in these previous studies (6.94 and 8.04, respectively). The distribution was strongly positively skewed.

Measure	Mean	SD	Minimum	Maximum
Depression	6.71	5.6	0	25
Anxiety	4.07	4.73	0	31
Stress	8.32	6.51	0	31

Table 7: Means, Standard Deviations, Minimums and Maximums of the Depression, Anxiety and Stress Scale scores

4.2.7 The COPE

Table 8 summarises the descriptive statistics for the COPE. The descriptive

statistics for the individual scores are generally very similar to those found in previous studies (Carver et al, 1989). The mean for the functional coping strategies was 78.21, with a standard deviation of 14.07, a minimum of 44 and a maximum of 104. The distribution was slightly negatively skewed.

The mean for the dysfunctional coping strategies was 26.85, with a standard deviation 5.58, a minimum of 18 and a maximum of 45. The distribution was slightly positively skewed.

Measure	Mean	SD	Minimum	Maximum
Active Coping	10.46	2.29	4	15
Planning	10.84	2.79	4	16
Seek Instrumental Support	10.38	2.85	4	15
Seek Emotional Support	10.79	3.47	4	16
Suppress Competing Activities	8.86	2.12	4	15
Turn to Religion	6.72	4.03	4	16
Reinterpretation/Growth	11.52	2.68	4	16
Restraint Coping	8.65	2.37	4	15
Acceptance	10.92	2.78	4	16
Focus on/Vent Emotions	9.73	3.31	4	16
Denial	5.52	1.96	4	12
Mental Disengagement	9.21	2.27	5	15
Behavioural Disengagement	6.39	1.88	4	11
Alcohol/Drug Use	5.78	2.62	4	16
Humour	8.7	3.27	4	16
Functional Coping Strategies	78.21	14.07	44	104
Dysfunctional Coping Strategies	26.85	5.58	18	45

Table 8: Means, Standard Deviations, Minimums and Maximums of the COPE Scores

4.3 Correlations

4.3.1 Multidimensional Perfectionism Subscale Correlations (MPS)

A correlation matrix revealed a number of significant correlations between the various perfectionism subscales and the other measures (see Table 9 for a summary).

	CM	PS	PE	PC	D	O
NEO PI						
Extraversion	-0.28	0.06	0.05	-0.08	-0.19	-0.10
Agreeableness	-0.10	0.23	-0.04	0.09	0.17	0.35
Conscientiousness	0.05	0.37	0.16	0.08	0.08	0.81
Neuroticism	0.55	0.28	0.09	0.22	0.35	0.00
Openness to Experience	0.2	0.23	0.15	0.14	0.16	-0.18

Composite Order Score	0.04	0.34	0.09	-0.02	0.08	0.86
DASS						
Depression	0.45	0.00	0.15	0.13	0.22	-0.08
Anxiety	0.32	0.14	0.05	0.12	0.17	-0.15
Stress	0.41	0.33	0.14	0.13	0.24	0.16
MPS						
Concern Over Mistakes	1.00	0.43	0.34	0.43	0.51	0.01
Personal Standards	0.43	1.00	0.31	0.20	0.06	0.32
Parental Expectations	0.34	0.31	1.00	0.67	0.19	0.02
Parental Criticisms	0.43	0.20	0.67	1.00	0.45	-0.03
Doubts About Actions	0.51	0.06	0.19	0.45	1.00	0.12
Organisation	0.01	0.32	0.02	-0.03	0.12	1.00
Positive Perfectionism	0.28	0.83	0.21	0.11	0.11	0.79
Negative Perfectionism	0.83	0.39	0.73	0.79	0.63	0.03
Total Perfectionism	0.75	0.61	0.71	0.75	0.54	0.12
COPE						
Functional Coping	-0.11	0.24	0.04	-0.10	-0.11	0.29
Dysfunctional Coping	0.39	-0.18	0.12	0.35	0.29	-0.28
PANAS						
Positive Affect	-0.31	0.19	-0.20	-0.03	-0.22	0.05
Negative Affect	0.44	0.36	0.05	0.10	0.26	-0.08
Ray AO	0.20	0.51	0.09	0.02	0.05	0.34
Gender	-0.24	-0.37	-0.19	-0.07	0.03	-0.08
Age	-0.02	-0.19	-0.13	0.22	0.13	0.00
High School Decile	0.09	0.00	-0.05	0.22	0.23	-0.03
Secondary Qualification	0.41	0.21	0.31	0.28	0.33	0.13
GPA	0.13	0.33	0.06	-0.16	0.12	-0.01

Table 9: Correlations of the MPS Scores, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School Qualification Achieved, and GPA.

Note: Correlations in bold italics were significant at $p < 0.05$

4.3.1.1 Concern Over Mistakes (CM)

The concern over mistakes score of the MPS showed a negative correlation with the extraversion score of the NEO PI ($r = -0.28$), so as concern over mistakes increased, the level of extraversion decreased. Concern over mistakes also showed a positive correlation with the neuroticism score of the NEO PI ($r = 0.55$), so the level of neuroticism increased as concern over mistakes increased. However, it showed no significant relationships with the agreeableness, conscientiousness and openness to

experience scores of the NEO PI. Concern over mistakes was not significantly related to the composite order score.

Concern over mistakes showed significant positive correlations with the depression, anxiety and stress scores of the DASS ($r=0.45$, $r=0.32$ and $r=0.41$, respectively). As concern over mistakes increased, so did the levels of depression, anxiety and stress. Concern over mistakes showed a positive relationship with the personal standards, parental expectations, parental criticisms and doubts about actions scores of the MPS ($r=0.43$, $r=0.34$, $r=0.43$ and $r=0.51$ respectively). As concern over mistakes increased, so did the levels of each of these scores. Concern over mistakes also showed a positive relationship with both positive and negative perfectionism, as well as total perfectionism ($r=0.28$, $r=0.83$ and $r=0.75$, respectively). However, it showed no significant relationship with the organisation score of the MPS.

Concern over mistakes showed a positive relationship with the use of dysfunctional coping strategies of the COPE ($r=0.39$), so as concern over mistakes increased, so did the use of these types of coping strategies. The dysfunctional coping strategies that this perfectionism score was significantly related to were mental disengagement ($r=0.34$) and behavioural disengagement ($r=0.36$). Concern over mistakes was not significantly related to the use of functional coping strategies.

Concern over mistakes was positively related to the negative affect score of the PANAS ($r=0.44$), and negatively related to positive affect ($r=-0.31$). As concern over mistakes increased, negative affect increased, while positive affect decreased.

Concern over mistakes was positively related to the highest level of secondary school achievement obtained ($r=0.41$), but not to gender, age, decile rating of high school attended, or GPA. Also, there was no significant relationship with achievement motivation as measured by the Ray AO.

4.3.1.2 Personal Standards (PS)

The personal standards score of the MPS showed a significant relationship with both the conscientiousness and the neuroticism scores of the NEO PI ($r=0.37$ and $r=0.28$, respectively). As personal standards increased, so did conscientiousness and neuroticism. However, it was not significantly related to the extraversion, agreeableness or openness to experience scores of the NEO PI.

Personal standards was related to the composite order score ($r=0.34$). As personal standards increased, so did the composite order score.

Personal standards showed a positive relationship with the stress score of the DASS ($r=0.33$), so as personal standards increased, so did the level of stress. Personal standards were not significantly related to the depression or anxiety scores of the DASS.

Personal standards was positively related to the concern over mistakes, parental expectations and organisation scores of the MPS ($r=0.43$, $r=0.31$ and $r=0.32$, respectively). As personal standards increased, so did the level of concern over mistakes, parental expectations and organisation. Personal standards also showed positive correlations with positive perfectionism, negative perfectionism and total perfectionism ($r=0.83$, $r=0.39$ and $r=0.61$, respectively), so as personal standards increased, so did these three scores. Personal standards was not significantly related to the parental criticism or doubts about actions scores of the MPS.

Personal standards was not significantly related to the use of functional or dysfunctional coping strategies of the COPE, although it was positively correlated with the planning and the focus on and vent emotions scores ($r=0.34$ and $r=0.33$ respectively), and negatively correlated with the humour score ($r=-0.32$).

Personal standards was significantly related to the negative affect score of the PANAS ($r=0.36$), so as personal standards increased, so did negative affect. However, personal standards showed no significant relationship to positive affect.

Personal standards showed a positive relationship with achievement motivation as measured by the Ray AO ($r=0.51$), indicating that as personal standards increased, so did achievement motivation.

Personal standards was significantly related to gender ($r=-0.37$). Females showed significantly higher personal standards scores, compared with males.

Personal standards showed no significant relationship with age, decile rating of high school attended or highest secondary school qualification achieved. However, it was related to GPA ($r=0.33$), so as personal standards increased, so did GPA.

4.3.1.3 Parental Expectations (PE)

The parental expectations score of the MPS showed no significant relationships with any of the NEO PI, the composite order, or the DASS scores.

Parental expectations showed significant relationships with the concern over mistakes, the personal standards and the parental criticisms scores of the MPS ($r=0.34$, $r=0.31$ and $r=0.67$, respectively). The higher the parental expectations, the higher these scores were. Parental expectations was also significantly related to negative perfectionism and total perfectionism ($r=0.73$ and $r=0.71$, respectively). As parental expectations increased, so did both negative perfectionism and total perfectionism. However, it was not significantly related to positive perfectionism.

Parental expectations showed no significant relationships with any scores of the COPE, the PANAS, the Ray AO, gender, age, decile rating of high school attended or GPA. However it did show a significant relationship with highest secondary school

qualification obtained ($r=0.31$), indicating that the higher the parental expectations, the higher the secondary school qualification that was obtained.

3.3.1.4 Parental Criticisms (PC)

The parental criticisms score of the MPS showed no significant relationships with any scores of the NEO PI, the DASS or the composite order score.

Parental criticisms was positively related to the concern over mistakes, parental expectations and the doubts about actions scores of the MPS ($r=0.43$, $r=0.67$ and $r=0.45$, respectively), indicating that as parental criticisms increased, so did these scores. However, it was not related to personal standards or organisation. Parental criticisms was significantly related to negative perfectionism ($r=0.79$) and total perfectionism ($r=0.75$), but not to positive perfectionism ($r=0.11$).

Parental criticisms showed a positive relationship with the dysfunctional coping score of the COPE ($r=0.35$), indicating that higher parental criticisms were related to a higher use of dysfunctional methods of coping. The scores of the COPE that it was significantly related to were denial ($r=0.31$) and alcohol or drug use ($r=0.29$). Parental criticisms was not significantly related to functional coping.

Parental criticisms showed no significant relationships with the positive or negative affect scores of the PANAS, the Ray AO, gender, age, decile rating of high school attended, or GPA. It was significantly related to the highest secondary school qualification obtained ($r=0.28$), indicating that higher parental criticisms were related to a higher secondary school qualification.

4.3.1.5 Doubts About Actions (D)

The doubts about actions score of the MPS was significantly related to the

neuroticism score of the NEO PI ($r=0.35$). The higher the doubts about actions, the higher the level of neuroticism. Doubts about actions was not significantly related to the extraversion, agreeableness, conscientiousness or openness to experience scores of the NEO PI.

Doubts about actions showed no significant relationship with the scores of the DASS, or the composite order score.

Doubts about actions was significantly related to the concern over mistakes and parental criticisms scores of the MPS ($r=0.51$ and $r=0.45$, respectively). As doubts about actions increased, so did the level of concern over mistakes and parental criticisms. Doubts about actions was not significantly related to the personal standards, parental expectations or organisation scores of the MPS.

Doubts about actions was significantly related to the dysfunctional coping strategies of the COPE ($r=0.29$) but not the functional coping strategies, indicating that as doubts about actions increased, dysfunctional coping strategies were increasingly used. In particular, doubts about actions was related to the mental disengagement score of the COPE ($r=0.28$).

Doubts about actions was not related to the positive or negative affect scores of the PANAS, the Ray AO, gender, age, the decile rating of the high school attended or to GPA. It was, however, related to the highest secondary school qualification obtained ($r=0.33$), indicating that the higher the doubts about actions, the higher the secondary school qualification obtained.

4.3.1.6 Organisation (O)

The organisation score of the MPS showed a significant relationship with both the agreeableness and conscientiousness scores of the NEO PI ($r=0.35$ and $r=0.81$,

respectively). As organisation increased, so did the level of agreeableness and conscientiousness. Organisation was not significantly related to the extraversion, neuroticism or openness to experience scores of the NEO PI. Organisation was not related to the composite order score, or any of the measures of the DASS.

Organisation was related to the personal standards score of the MPS ($r=0.32$), but not the concern over mistakes, parental expectations, parental criticisms or doubts about actions scores. As organisation increased, so did personal standards. Organisation was significantly related to positive perfectionism ($r=0.79$) but not negative perfectionism or total perfectionism.

Organisation showed a positive relationship with the use of functional coping strategies ($r=0.29$), and a negative relationship with the use of dysfunctional coping strategies ($r=-0.28$), so as organisation increased, the use of functional coping strategies increased while the use of dysfunctional coping strategies decreased.

Organisation was related to the active coping, planning, suppress competing activities and humour scores of the COPE ($r=0.32$, $r=0.37$, $r=0.37$ and $r=-0.28$, respectively).

Organisation was not significantly related to the positive affect or the negative affect scores of the PANAS, gender, age, decile of high school attended, highest secondary school qualification obtained or GPA. It was significantly related to achievement motivation as measured by the Ray AO ($r=0.34$), indicating that as organisation increased, so did achievement motivation.

4.3.2 Multidimensional Perfectionism Scale Overall Correlations (MPS)

A correlation matrix revealed a number of significant correlations between positive perfectionism, negative perfectionism, total perfectionism and the other measures (see Table 10 for a summary).

4.3.2.1 Positive Perfectionism

Positive perfectionism was significantly related to the agreeableness score of the NEO PI ($r=0.35$), indicating that as positive perfectionism increased, so did the level of agreeableness. It was also positively related to the conscientiousness score ($r=0.71$), so as positive perfectionism increased, so did the level of conscientiousness. Positive perfectionism was not significantly related to the extraversion, neuroticism and openness to experience scores of the NEO PI. Positive perfectionism was significantly related to the composite order score ($r=0.72$), so as positive perfectionism increased, so did the composite order score. Positive perfectionism was positively related to the stress score of the DASS ($r=0.30$), so as positive perfectionism increased, so did the level of stress. However, it was not significantly related to the depression or anxiety scores of the DASS.

	Positive Perfectionism	Negative Perfectionism	Total Perfectionism
NEO PI			
Extraversion	-0.02	-0.18	-0.17
Agreeableness	0.35	-0.01	0.10
Conscientiousness	0.71	0.12	0.21
Neuroticism	0.18	0.43	0.45
Openness to Experience	0.04	0.22	0.23
Composite Order Score	0.72	0.06	0.16
DASS			
Depression	-0.05	0.36	0.25
Anxiety	0.00	0.25	0.24
Stress	0.30	0.34	0.35
MPS			
Concern Over Mistakes	0.28	0.83	0.75
Personal Standards	0.83	0.39	0.61
Parental Expectations	0.21	0.73	0.71
Parental Criticisms	0.11	0.79	0.75
Doubts About Actions	0.11	0.63	0.54
Organisation	0.79	0.03	0.12
Positive Perfectionism	1.00	0.27	0.47
Negative Perfectionism	0.27	1.00	0.92
Total Perfectionism	0.47	0.92	1.00

COPE			
Functional Coping	0.33	-0.09	-0.04
Dysfunctional Coping	-0.28	0.39	0.22
PANAS			
Positive Affect	0.15	-0.28	-0.16
Negative Affect	0.18	0.32	0.35
Ray AO	0.53	0.15	0.25
Gender	-0.28	-0.20	-0.30
Age	-0.12	0.03	0.05
High School Decile	-0.02	0.13	0.08
Secondary			
Qualification	0.21	0.45	0.37
GPA	0.21	0.07	0.18

Table 10: Correlations of the MPS Positive Perfectionism, Negative Perfectionism and Total Perfectionism Scores, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School Qualification Achieved, and GPA.

Note: Correlations in bold italics were significant at $p < 0.05$

Positive perfectionism was positively related to the concern over mistakes, personal standards and organisation scores of the MPS ($r=0.28$, $r=0.83$ and $r=0.79$, respectively), so as positive perfectionism increased, so did these other scores. It was also positively related to the negative perfectionism score ($r=0.27$), and the total perfectionism score ($r=0.47$).

Positive perfectionism showed a positive relationship with the use of functional coping strategies ($r=0.33$), and a negative relationship with the use of dysfunctional coping strategies ($r=-0.28$), as measured by the COPE. This indicates that as positive perfectionism increased, the use of functional coping strategies also increased, while the use of dysfunctional coping strategies decreased. Individually, positive perfectionism was positively related to the active coping ($r=0.34$), planning ($r=0.44$), suppress competing activities ($r=0.29$) and focus on and vent emotions scores ($r=0.29$), and negatively related to the humour score ($r=-0.37$).

Positive perfectionism showed no significant relationship with the positive or negative affect scores of the PANAS.

Positive perfectionism was positively related to achievement motivation as measured by the Ray AO ($r=0.53$). As positive perfectionism increased, so did the level of achievement motivation.

Positive perfectionism was positively related to gender ($r=-0.28$), indicating that females scored higher on the positive perfectionism score, compared with males.

Positive perfectionism was not significantly related to age, decile rating of high school attended, highest secondary school qualification obtained or GPA.

4.3.2.2 Negative Perfectionism

Negative perfectionism was significantly related to the neuroticism score of the NEO PI ($r=0.43$), so as negative perfectionism increased, so did the level of neuroticism. Negative perfectionism was not significantly related to the extraversion, agreeableness, conscientiousness or openness to experience scores of the NEO PI. It also was not significantly related to the composite order score.

Negative perfectionism was positively related to the depression and the stress scores of the DASS ($r=0.36$ and $r=0.34$, respectively), so as negative perfectionism increased, so did the level of depression and stress. Negative perfectionism showed no significant relationship with the anxiety score of the DASS.

Negative perfectionism showed a positive relationship with the concern over mistakes, personal standards, parental expectations, parental criticisms and doubts about actions scores of the MPS ($r=0.83$, $r=0.39$, $r=0.73$, $r=0.79$ and $r=0.63$, respectively). As negative perfectionism increased, so did these scores. Negative perfectionism was also positively related to positive perfectionism ($r=0.27$), and total perfectionism ($r=0.92$).

Negative perfectionism was positively related to the use of the dysfunctional coping

strategies of the COPE ($r=0.39$), so as negative perfectionism increased, so did the use of dysfunctional coping strategies. However, there were no significant correlations with the individual coping strategies. Negative perfectionism also showed no significant relationships with the use of functional coping strategies.

Negative perfectionism was negatively related to the positive affect score of the PANAS ($r=-0.28$), and positively related to the negative affect score ($r=0.32$), indicating that as negative perfectionism increased, negative affect also increased while positive affect decreased.

Negative perfectionism showed no significant relationships with achievement motivation, gender, age, decile rating of high school attended or GPA. It was, however, related to the highest secondary school qualification obtained ($r=0.45$), so as negative perfectionism increased, so did the highest secondary school qualification obtained.

4.3.2.3 Total Perfectionism

Total perfectionism was positively related to the neuroticism score of the NEO PI ($r=0.45$), so as total perfectionism increased, so did the level of neuroticism. It was not significantly related to the extraversion, agreeableness, conscientiousness or openness to experience scores of the NEO PI. It was also not related to the composite order score.

Total perfectionism was positively related to the stress score of the DASS ($r=0.35$), indicating that as total perfectionism increased, so did the level of stress. It was not significantly related to the depression or the anxiety scores of the DASS.

Total perfectionism was positively related to the concern over mistakes, personal standards, parental expectations, parental criticisms and doubts about actions scores of

the MPS ($r=0.75$, $r=0.61$, $r=0.71$, $r=0.75$ and $r=0.54$, respectively), so as total perfectionism increased, so did these scores. Total perfectionism was also positively related to positive perfectionism ($r=0.47$), and negative perfectionism ($r=0.92$). It was not significantly related to the organisation score.

Total perfectionism was not significantly related to the use of functional or dysfunctional coping strategies, although individually, it was related to the use of humour ($r=-0.28$).

Total perfectionism was related to the negative affect score of the PANAS ($r=0.35$), indicating that as total perfectionism increased, so did negative affect. It was not significantly related to positive affect.

Total perfectionism was not related to achievement motivation as measured by the Ray AO, age, decile rating of high school attended or GPA. It was related to gender ($r=-0.30$), indicating that females showed higher levels of total perfectionism. It was also related to the highest secondary school qualification obtained ($r=0.37$), indicating that the higher the total perfectionism score, the lower the highest secondary school qualification obtained.

4.3.3 Academic Achievement Correlations

A correlation matrix revealed a few significant correlations between academic achievement variables and the other measures (see Table 11 for a summary).

4.3.3.1 Highest Secondary School Qualification Obtained

The highest secondary school qualification obtained showed no significant correlations with any of the NEO PI scores (extraversion, agreeableness, conscientiousness, neuroticism or openness to experience), nor with the composite

order score.

The highest secondary school qualification obtained was correlated with the depression and stress scores of the DASS ($r=0.30$ and $r=0.27$, respectively), indicating that those that obtained a higher secondary school qualification, also experienced higher levels of depression and stress. It was not significantly related to the anxiety score.

	Secondary Qualification	Decile Rating of High School	GPA
NEO PI			
Extraversion	-0.05	0.12	-0.20
Agreeableness	0.19	-0.08	-0.12
Conscientiousness	0.22	-0.11	0.03
Neuroticism	0.18	-0.07	0.22
Openness to Experience	0.19	0.10	0.13
Composite Order Score	0.17	-0.04	0.03
DASS			
Depression	0.30	-0.11	0.08
Anxiety	0.05	0.07	0.13
Stress	0.27	0.06	0.28
MPS			
Concern Over Mistakes	0.41	0.09	0.13
Personal Standards	0.21	0.00	0.33
Parental Expectations	0.31	-0.05	0.06
Parental Criticisms	0.28	0.22	-0.16
Doubts About Actions	0.33	0.23	0.12
Organisation	0.13	-0.03	-0.01
Positive Perfectionism	0.21	-0.02	0.21
Negative Perfectionism	0.45	0.13	0.07
Total Perfectionism	0.37	0.11	0.18
COPE			
Functional Coping	0.04	-0.13	0.05
Dysfunctional Coping	0.17	0.15	-0.31
PANAS			
Positive Affect	-0.25	0.06	0.14
Negative Affect	0.17	0.02	0.12
Ray AO	0.01	-0.07	0.17
Gender	-0.21	0.16	-0.18
Age	-0.25	-0.02	-0.12
High School Decile	-0.04	1.00	-0.19
Secondary Qualification	1.00	-0.04	0.04
GPA	0.04	-0.19	1.00

Table 11: Correlations of the Highest Secondary School Qualification Achieved, Decile Rating of High School, and GPA, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School

Decile Rating, Highest Secondary School Qualification Achieved, and GPA.

Note: Correlations in bold italics were significant at $p < 0.05$

The highest secondary school qualification obtained was correlated with the concern over mistakes, parental expectations, parental criticisms and doubts about actions scores of the MPS ($r=0.41$, $r=0.31$, $r=0.28$ and $r=0.33$, respectively). This indicates that those who obtained a higher secondary school qualification, also scored higher on each of these variables. The highest secondary school qualification obtained was also correlated with negative perfectionism ($r=0.45$) and total perfectionism ($r=0.37$), but not with positive perfectionism, personal standards or organisation.

The highest secondary school qualification obtained was not related to the use of either functional or dysfunctional coping strategies as measured by the COPE, to the positive or negative affect score of the PANAS, achievement motivation as measured by the Ray AO, gender, age, decile rating of high school attended, or GPA.

4.3.3.2 High School Decile Rating

The decile rating of the high school attended showed no significant correlations with any of the other measures.

4.3.3.3 Grade Point Average (GPA)

GPA showed no significant relationships with any of the NEO PI scores (extraversion, agreeableness, conscientiousness, neuroticism or openness to experience), or with the composite order score.

GPA was significantly related to the stress score of the DASS ($r=0.28$), indicating that the higher the GPA, the higher the stress experienced. GPA was not significantly related to the depression or anxiety scores of the DASS.

GPA was related to the personal standards score of the MPS ($r=0.33$), so as GPA increased so did personal standards. It was not related to any of the other perfectionism measures.

GPA was negatively related to the use of dysfunctional coping strategies as measured by the COPE ($r=-0.31$), indicating that those with higher GPA's used dysfunctional coping less. Individually, GPA was negatively related to denial ($r=-0.42$). GPA was not significantly related to the use of functional coping strategies.

GPA was not related to the positive or negative affect scores of the PANAS, achievement motivation as measured by the Ray AO, gender, age, decile rating of high school attended or highest secondary school qualification obtained.

4.3.4 Achievement Motivation Correlations

4.3.4.1 Ray Achievement Orientation Scale (Ray AO)

Table 12 summarises the correlations between achievement motivation as measured by the Ray AO, and the other measures.

The achievement motivation score was not significantly related to any of the NEO PI scores (extraversion, agreeableness, conscientiousness, neuroticism, or openness to experience). It was related to the composite order score ($r=0.29$), indicating that the higher the achievement motivation score, the higher the composite order score.

Achievement motivation was not significantly related to any of the DASS scores (depression, anxiety or stress).

	Ray AO
NEO PI	
Extraversion	0.23
Agreeableness	0.11
Conscientiousness	0.19
Neuroticism	0.08
Openness to Experience	0.13
Composite Order Score	<i>0.29</i>
DASS	
Depression	-0.23
Anxiety	0.01
Stress	0.10
MPS	
Concern Over Mistakes	0.20
Personal Standards	<i>0.51</i>
Parental Expectations	0.09
Parental Criticisms	0.02
Doubts About Actions	0.05
Organisation	<i>0.34</i>
Positive Perfectionism	<i>0.53</i>
Negative Perfectionism	0.15
Total Perfectionism	0.25
COPE	
Functional Coping	<i>0.46</i>
Dysfunctional Coping	<i>-0.35</i>
PANAS	
Positive Affect	<i>0.31</i>
Negative Affect	-0.01
Ray AO	1.00
Gender	<i>-0.27</i>
Age	0.05
High School Decile	-0.07
Secondary	
Qualification	0.01
GPA	0.17

Table 12: Correlations of the Ray AO, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School Qualification Achieved, and GPA.

Note: Correlations in bold italics were significant at $p < 0.05$

Achievement motivation was related to the personal standards and organisation scores of the MPS ($r=0.51$ and $r=0.34$, respectively), indicating that as achievement motivation increased, so did personal standards and organisation. It was also related to positive perfectionism ($r=0.53$), indicating that higher achievement motivation was related to higher positive perfectionism. However, it was not related to concern over mistakes, parental expectations, parental criticisms, doubts about actions, negative perfectionism or total perfectionism.

Achievement motivation was positively related to the use of functional coping strategies ($r=0.46$) and negatively related to the use of dysfunctional coping strategies ($r=-0.35$), as measured by the COPE. This indicates that higher achievement motivation was associated with more use of functional and less use of dysfunctional coping strategies. Individually, achievement motivation was positively related to active coping ($r=0.45$), planning ($r=0.51$), seeking instrumental social support ($r=0.40$), seeking emotional social support ($r=0.29$), suppress competing activities ($r=0.36$) and positive reinterpretation and growth ($r=0.30$). It was negatively related to behavioural disengagement ($r=-0.33$).

Achievement motivation was positively related to the positive affect score of the PANAS ($r=0.31$), indicating that higher achievement motivation was associated with higher positive affect. It was not significantly related to negative affect.

Achievement motivation was significantly related to gender ($r=-0.27$), indicating that females showed higher achievement motivation compared with males. Achievement motivation was not significantly related to age, decile rating of high school, highest secondary school qualification obtained or GPA.

4.3.5 NEO Personality Inventory (NEO PI) Correlations

Table 13 summarises the correlations between the NEO Personality Inventory and the other measures.

	Extraversion	Agreeableness	Conscientiousness	Neuroticism	Openness
NEO PI					
Extraversion	1.00	0.31	-0.12	-0.32	0.32
Agreeableness	0.31	1.00	0.34	-0.04	0.21
Conscientiousness	-0.12	0.34	1.00	-0.03	-0.05
Neuroticism	-0.32	-0.04	-0.03	1.00	0.08
Openness to Experience	0.32	0.21	-0.05	0.08	1.00
Composite Order Score	-0.08	0.40	0.86	0.02	-0.07
DASS					
Depression	-0.42	-0.18	-0.09	0.52	-0.03
Anxiety	-0.32	-0.19	-0.12	0.45	-0.13
Stress	-0.26	-0.10	0.17	0.65	0.09
MPS					
Concern Over Mistakes	-0.28	-0.10	0.05	0.55	0.20
Personal Standards	0.06	0.23	0.37	0.28	0.23
Parental Expectations	0.05	-0.04	0.16	0.09	0.15
Parental Criticisms	-0.08	0.09	0.08	0.22	0.14
Doubts About Actions	-0.19	0.17	0.08	0.35	0.16
Organisation	-0.10	0.35	0.81	0.00	-0.18
Positive Perfectionism	-0.02	0.35	0.71	0.18	0.04
Negative Perfectionism	-0.18	-0.01	0.12	0.43	0.22
Total Perfectionism	-0.17	0.10	0.21	0.45	0.23
COPE					
Functional Coping	0.35	0.43	0.24	-0.15	0.24
Dysfunctional Coping	0.01	0.03	-0.33	0.22	0.13
PANAS					
Positive Affect	0.40	0.26	0.07	-0.21	0.18
Negative Affect	-0.10	0.02	-0.12	0.61	0.09
Ray AO	0.23	0.11	0.19	0.08	0.13
Gender	0.05	-0.13	-0.12	-0.34	0.13
Age	-0.02	0.16	0.02	-0.03	-0.04
High School Decile	0.12	-0.08	-0.11	-0.07	0.10
Secondary Qualification	-0.05	0.19	0.22	0.18	0.19
GPA	-0.20	-0.12	0.03	0.22	0.13

Table 13: Correlations of the NEO PI, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School Qualification Achieved, and GPA.

Note: Correlations in bold italics were significant at $p < 0.05$

4.3.5.1 Extraversion

The extraversion score of the NEO PI was positively related to the agreeableness score of the NEO PI ($r=0.31$) and the openness to experience score ($r=0.32$), indicating that as extraversion increased, so did agreeableness and openness to experience. Extraversion was negatively related to neuroticism ($r=-0.32$), so as extraversion increased, neuroticism decreased. Extraversion was not significantly related to the conscientiousness score of the NEO PI, nor was it related to the composite order score.

Extraversion was negatively related to the depression score of the DASS ($r=-0.42$), as well as anxiety ($r=-0.32$), indicating that higher extraversion was associated with lower depression and anxiety levels. Extraversion was not significantly related to stress.

Extraversion was negatively related to the concern over mistakes score of the MPS ($r=-0.28$), so as extraversion increased, concern over mistakes decreased. Extraversion was not significantly related to any of the other perfectionism scores.

Extraversion was positively related to the use of the functional coping strategies of the COPE ($r=0.35$), indicating that higher extraversion was associated with the use of more functional coping strategies. Individually, it was related to the active coping, planning, seeking instrumental social support, positive reinterpretation and growth, acceptance, alcohol or drug use and humour scores ($r=0.32$, $r=0.37$, $r=0.32$, $r=0.42$, $r=0.40$, $r=0.35$ and $r=0.42$, respectively). Extraversion was not related to the use of dysfunctional coping strategies.

Extraversion was positively related to the positive affect score of the PANAS ($r=0.40$), so as extraversion increased, so did positive affect. However, it was not

significantly related to negative affect.

Extraversion was not related to achievement motivation as measured by the Ray AO, gender, age, decile of high school attended, highest secondary school qualification obtained or GPA.

4.3.5.2 Agreeableness

The agreeableness score of the NEO PI was positively related to the extraversion and the conscientiousness scores of the NEO PI ($r=0.31$ and $r=0.34$, respectively). As agreeableness increased, so did extraversion and conscientiousness. It was not significantly related to neuroticism and openness to experience.

Agreeableness was related to the composite order score ($r=0.40$), so as agreeableness increased, so did the composite order score.

Agreeableness was not significantly related to any of the scores of the DASS (depression, anxiety or stress).

Agreeableness was positively related to the organisation score of the MPS ($r=0.35$), as well as positive perfectionism ($r=0.35$), so as agreeableness increased, so did these two perfectionism scores. Agreeableness was not significantly related to any of the other perfectionism scores.

Agreeableness was related to the use of functional coping strategies as measured by the COPE ($r=0.43$), so as agreeableness increased, so did the use of functional coping strategies. In particular, agreeableness was related to active coping ($r=0.38$), planning ($r=0.41$), seeking instrumental social support ($r=0.28$), seeking emotional social support ($r=0.42$) and suppress competing activities ($r=0.37$). Agreeableness was not significantly related to the use of dysfunctional coping strategies.

Agreeableness was not significantly related to the positive or negative affect scores of

the PANAS, the achievement motivation score of the Ray AO, gender, age, decile rating of the high school attended, the highest secondary qualification obtained or GPA.

4.3.5.3 Conscientiousness

The conscientiousness score of the NEO PI was positively related to the agreeableness score of the NEO PI ($r=0.34$), indicating that as conscientiousness increased, so did agreeableness. Conscientiousness was not significantly related to the extraversion, neuroticism or openness to experience scores of the NEO PI. It was related to the composite order score ($r=0.86$), indicating that as conscientiousness increased, so did the composite order score.

Conscientiousness was not significantly related to any of the DASS measures (depression, anxiety or stress).

Conscientiousness was related to the personal standards and the organisation scores of the MPS ($r=0.37$ and $r=0.81$, respectively), so as conscientiousness increased, so did personal standards and organisation. Conscientiousness was also related to positive perfectionism ($r=0.71$), but not to any of the other perfectionism scores.

Conscientiousness was negatively related to the use of dysfunctional coping strategies as measured by the COPE ($r=-0.33$), so as conscientiousness increased, the use of dysfunctional coping strategies decreased. In particular, conscientiousness was negatively related to denial ($r=-0.32$). Conscientiousness was not related to the overall use of functional coping strategies, although it was related to active coping ($r=0.34$), planning ($r=0.33$) and suppress competing activities ($r=0.30$).

Conscientiousness was not related to either the positive or negative affect scores of the PANAS, the achievement motivation score of the Ray AO, gender, age, decile

rating of high school attended, highest secondary school qualification obtained or GPA.

4.3.5.4 Neuroticism

The neuroticism score of the NEO PI was negatively related to the extraversion score of the NEO PI ($r=-0.32$), indicating that as neuroticism increased, extraversion decreased. Neuroticism was not related to the agreeableness, conscientiousness or openness to experience scores of the NEO PI, or the composite order score.

Neuroticism was positively related to the depression, anxiety and stress scores of the DASS ($r=0.52$, $r=0.45$ and $r=0.65$, respectively). As neuroticism increased, so did these scores.

Neuroticism was related to the concern over mistakes, personal standards, and doubts about actions scores of the MPS ($r=0.55$, $r=0.28$ and $r=0.35$, respectively). As neuroticism increased, so did these scores. Neuroticism was also related to negative perfectionism ($r=0.43$) and total perfectionism ($r=0.45$), but not any of the other perfectionism measures.

Neuroticism was not significantly related to the use of functional or dysfunctional coping strategies, although it was related to positive reinterpretation and growth ($r=-0.32$), acceptance ($r=-0.38$), focus on and vent emotions ($r=0.58$) and humour ($r=-0.35$).

Neuroticism was related to the negative affect score of the PANAS ($r=0.61$), so as neuroticism increased, so did negative affect. Neuroticism was not significantly related to positive affect.

Neuroticism showed no significant relationships to the achievement motivation score

of the Ray AO, age, decile rating of high school attended, highest secondary school qualification obtained or GPA. It was, however, related to gender ($r=-0.34$). Females showed higher levels of neuroticism compared with males.

4.3.5.5 Openness to Experience

The openness to experience score of the NEO PI was related to the extraversion score of the NEO PI ($r=0.32$), so as openness to experience increased, so did extraversion. Openness to experience was not significantly related to the agreeableness, conscientiousness or neuroticism scores of the NEO PI, or the composite order score.

Openness to experience was not related to any of the DASS scores (depression, anxiety or stress), or to any of the perfectionism scores.

Openness to experience was not significantly related to the use of functional or dysfunctional coping strategies as measured by the COPE. However, it was related to the positive reinterpretation and growth, acceptance and alcohol or drug use scores ($r=0.33$, $r=0.29$ and $r=0.28$, respectively).

Openness to experience was not significantly related to the positive or negative affect scores of the PANAS, to the achievement motivation score of the Ray AO, gender, age, decile rating of high school attended, highest secondary school qualification obtained or GPA.

4.3.6 Composite Order Score

Table 14 summarises the correlations between the composite order score and the other measures.

	Composite Order Score
NEO PI	
Extraversion	-0.08
Agreeableness	0.40
Conscientiousness	0.86
Neuroticism	0.02
Openness to Experience	-0.07
Composite Order Score	1.00
DASS	
Depression	0.01
Anxiety	-0.02
Stress	0.25
MPS	
Concern Over Mistakes	0.04
Personal Standards	0.34
Parental Expectations	0.09
Parental Criticisms	-0.02
Doubts About Actions	0.08
Organisation	0.86
Positive Perfectionism	0.72
Negative Perfectionism	0.06
Total Perfectionism	0.16
COPE	
Functional Coping	0.26
Dysfunctional Coping	-0.29
PANAS	
Positive Affect	0.02
Negative Affect	-0.04
Ray AO	0.29
Gender	-0.16
Age	-0.04
High School Decile	-0.04
Secondary	
Qualification	0.17
GPA	0.03

Table 14: Correlations of the Composite Order Score, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary Qualification Achieved, and GPA.

Note: Correlations in bold italics were significant at $p < 0.05$

The composite order score was positively correlated with the agreeableness and conscientiousness scores of the NEO PI ($r=0.40$ and $r=0.86$, respectively). As the composite order increased, so did the agreeableness and conscientiousness scores. Composite order was not significantly related to the extraversion, neuroticism or openness to experience scores of the NEO PI.

Composite order was not significantly related to any of the scores of the DASS (depression, anxiety or stress).

Composite order was related to the personal standards and organisation scores of the MPS ($r=0.34$ and $r=0.86$, respectively), so as composite order increased, so did personal standards and organisation. It was also related to positive perfectionism ($r=0.72$), but not to any of the other perfectionism measures.

Composite order was negatively related to the use of dysfunctional coping strategies as measured by the COPE ($r=-0.29$). As composite order increased, the use of dysfunctional coping strategies decreased. However, it was not significantly related to the use of functional coping strategies. Composite order was positively related to the active coping, planning, suppress competing activities and restraint coping scores ($r=0.28$, $r=0.31$, $r=0.33$ and $r=0.30$, respectively), and negatively related to the alcohol or drug use and humour scores ($r=-0.30$ and $r=-0.31$, respectively).

Composite order was not significantly related to the positive or negative affect scores of the PANAS, gender, age, decile rating of high school attended, highest secondary school qualification obtained or GPA. It was related to achievement motivation as measured by the Ray AO ($r=0.29$), indicating that as composite order increased, so did achievement motivation.

4.3.7 Positive and Negative Affect Scale (PANAS) Correlations

Table 15 summarises the correlations between the Positive and Negative Affect Scale and the other measures.

	Positive Affect	Negative Affect
NEO PI		
Extraversion	<i>0.40</i>	-0.10
Agreeableness	0.26	0.02
Conscientiousness	0.07	-0.12
Neuroticism	-0.21	<i>0.61</i>
Openness to Experience	0.18	0.09
Composite Order Score	0.02	-0.04
DASS		
Depression	<i>-0.73</i>	<i>0.46</i>
Anxiety	<i>-0.28</i>	<i>0.48</i>
Stress	<i>-0.27</i>	<i>0.54</i>
MPS		
Concern Over Mistakes	<i>-0.31</i>	<i>0.44</i>
Personal Standards	0.19	<i>0.36</i>
Parental Expectations	-0.20	0.05
Parental Criticisms	-0.03	0.10
Doubts About Actions	-0.22	0.26
Organisation	0.05	-0.08
Positive Perfectionism	0.15	0.18
Negative Perfectionism	<i>-0.28</i>	<i>0.32</i>
Total Perfectionism	-0.16	<i>0.35</i>
COPE		
Functional Coping	<i>0.49</i>	-0.12
Dysfunctional Coping	-0.18	<i>0.34</i>
PANAS		
Positive Affect	1.00	-0.18
Negative Affect	-0.18	1.00
Ray AO	<i>0.31</i>	-0.01
Gender	-0.02	-0.18
Age	0.19	-0.12
High School Decile	0.06	0.02
Secondary		
Qualification	-0.25	0.17
GPA	0.14	0.12

Table 15: Correlations of the PANAS, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School Qualification Achieved, and GPA.

Note: Correlations in bold italics were significant at $p < 0.05$

4.3.7.1 Positive Affect

The positive affect score of the PANAS was related to the extraversion score of the NEO PI ($r=0.40$), indicating that the higher the positive affect score, the higher the extraversion score. Positive affect was not significantly related to any of the other NEO PI scores, or the composite order score.

Positive affect was negatively related to the depression, anxiety and stress scores of the DASS ($r=-0.73$, $r=-0.28$ and $r=-0.27$, respectively). As positive affect increased, levels of depression, anxiety and stress decreased.

Positive affect was negatively related to the concern over mistakes score of the MPS ($r=-0.31$), so as positive affect increased, concern over mistakes decreased. It was also negatively related to negative perfectionism ($r=-0.28$), but was not significantly related to any of the other perfectionism measures.

Positive affect was positively related to the use of functional coping strategies as measured by the COPE ($r=0.49$), so as positive affect increased, so did the use of functional coping strategies. It was positively related to the active coping, planning, seek instrumental social support, seek emotional social support, suppress competing activities, positive reinterpretation and growth, acceptance and humour scores ($r=0.55$, $r=0.45$, $r=0.35$, $r=0.32$, $r=0.27$, $r=0.47$, $r=0.47$ and $r=0.30$, respectively).

Positive affect was not significantly related to the use of dysfunctional coping strategies.

Positive affect did not show a significant relationship with the negative affect score of the PANAS.

Positive affect was related to the achievement motivation score of the Ray AO

($r=0.31$), so as positive affect increased, so did achievement motivation.

Positive affect showed no significant relationships with gender, age, decile rating of high school attended, highest secondary school qualification obtained or GPA.

4.3.7.2 Negative Affect

The negative affect score of the PANAS was related to the neuroticism score of the NEO PI ($r=0.61$), indicating that as negative affect increased, so did the level of neuroticism. Negative affect was not significantly related to the extraversion, agreeableness, conscientiousness and openness to experience scores of the NEO PI, or the composite order score.

Negative affect was positively related to the depression, anxiety and stress scores of the DASS ($r=0.46$, $r=0.48$ and $r=0.54$, respectively). As negative affect increased, so did these scores.

Negative affect was positively related to the concern over mistakes and personal standards scores of the MPS ($r=0.44$ and $r=0.36$, respectively). As negative affect increased, so did concern over mistakes and personal standards. Negative affect was also related to negative perfectionism ($r=0.32$) and total perfectionism ($r=0.35$), but not to any of the other perfectionism scores.

Negative affect was positively related to the use of dysfunctional coping strategies as measured by the COPE ($r=0.34$). As negative affect increased, so did the use of dysfunctional coping strategies. However, it was not significantly related to the use of functional coping strategies. Individually, negative affect was related to the focus on and vent emotions and behavioural disengagement scores ($r=0.31$ and $r=0.38$, respectively).

Negative affect was not significantly related to the positive affect scores of the

PANAS, the achievement motivation score of the Ray AO, gender, age, decile rating of high school attended, highest secondary school qualification obtained or GPA.

4.3.8 Depression, Anxiety and Stress Scale (DASS) Correlations

Table 16 summarises the correlations between the Depression, Anxiety and Stress Scale and the other measures.

	Depression	Anxiety	Stress
NEO PI			
Extraversion	-0.42	-0.32	-0.26
Agreeableness	-0.18	-0.19	-0.10
Conscientiousness	-0.09	-0.12	0.17
Neuroticism	0.52	0.45	0.65
Openness to Experience	-0.03	-0.13	0.09
Composite Order Score	0.01	-0.02	0.25
DASS			
Depression	1.00	0.48	0.58
Anxiety	0.48	1.00	0.63
Stress	0.58	0.63	1.00
MPS			
Concern Over Mistakes	0.45	0.32	0.41
Personal Standards	0.00	0.14	0.33
Parental Expectations	0.15	0.05	0.14
Parental Criticisms	0.13	0.12	0.13
Doubts About Actions	0.22	0.17	0.24
Organisation	-0.08	-0.15	0.16
Positive Perfectionism	-0.05	0.00	0.30
Negative Perfectionism	0.36	0.25	0.34
Total Perfectionism	0.25	0.24	0.35
COPE			
Functional Coping	-0.42	-0.19	-0.08
Dysfunctional Coping	0.25	0.20	0.02
PANAS			
Positive Affect	-0.73	-0.28	-0.27
Negative Affect	0.46	0.48	0.54
Ray AO	-0.23	0.01	0.10
Gender	-0.02	-0.07	-0.06
Age	-0.24	-0.17	-0.21
High School Decile	-0.11	0.07	0.06
Secondary Qualification	0.30	0.05	0.27
GPA	0.08	0.13	0.28

Table 16: Correlations of the DASS, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School Qualification Achieved, and GPA.

Note: Correlations in bold italics were significant at $p < 0.05$

4.3.8.1 Depression

The depression score of the DASS was negatively related to the extraversion score of the NEO PI ($r=-0.42$), indicating that as depression increased, the level of extraversion decreased. Depression was also related to the neuroticism score of the NEO PI ($r=0.52$), so as depression increased, so did neuroticism. Depression was also not related to agreeableness, conscientiousness or openness to experience. Depression was not significantly related to the composite order score.

Depression was significantly related to both the anxiety and the stress scores of the DASS ($r=0.48$ and $r=0.58$, respectively). As depression increased, so did the level of anxiety and stress.

Depression was related to the concern over mistakes score of the MPS ($r=0.45$), indicating that as depression increased, so did concern over mistakes. Depression was also related to negative perfectionism ($r=0.36$), but not to any of the other perfectionism measures.

Depression was negatively related to the use of the functional coping strategies of the COPE ($r=-0.42$), so as depression increased, functional forms of coping were used less. Depression was not significantly related to the use of dysfunctional forms of coping. Individually, depression was positively related to denial ($r=0.28$) and behavioural disengagement ($r=0.30$), and negatively related to active coping ($r=-0.49$), planning ($r=-0.43$), seek instrumental social support ($r=-0.39$), positive reinterpretation and growth ($r=-0.34$), acceptance ($r=-0.42$) and humour ($r=-0.30$).

Depression was positively related to the negative affect score of the PANAS ($r=0.46$), and negatively related to positive affect ($r=-0.73$). As depression increased, so did

negative affect, while positive affect decreased.

Depression was not significantly related to the achievement motivation score of the Ray AO, gender, age, decile rating of high school attended or GPA. It was related to the highest secondary school qualification obtained ($r=0.30$), so higher depression levels were associated with the achievement of higher secondary school qualifications.

4.3.8.2 Anxiety

The anxiety score of the DASS was negatively related to the extraversion score of the NEO PI ($r=-0.32$), so as anxiety increased, extraversion decreased. Anxiety was positively related to the neuroticism score of the NEO PI ($r=0.45$), so as anxiety increased, so did the level of neuroticism. Anxiety was not significantly related to the agreeableness, conscientiousness, or openness to experience scores of the NEO PI, nor was it related to the composite order score.

Anxiety was related to both the depression and the stress scores of the DASS ($r=0.48$ and $r=0.63$, respectively), so as anxiety increased, so did depression and stress levels. Anxiety was related to the concern over mistakes score of the MPS ($r=0.32$), so as anxiety increased, so did concern over mistakes. Anxiety was not significantly related to any of the other perfectionism scores.

Anxiety was not significantly related to the use of functional or dysfunctional coping strategies, nor was it related to any of the individual coping mechanisms.

Anxiety was positively related to the negative affect score of the PANAS ($r=0.48$), and negatively related to the positive affect score ($r=-0.28$), so as anxiety increased, negative affect also increased, while positive affect decreased.

Anxiety was not related to the achievement motivation measure of the Ray AO,

gender, age, decile rating of high school attended, highest secondary school qualification obtained, or GPA.

4.3.8.3 Stress

The stress score of the DASS was significantly related to the neuroticism score of the NEO PI ($r=0.65$), so as stress increased, so did neuroticism. Stress was not significantly related to the extraversion, agreeableness, conscientiousness or openness to experience scores of the NEO PI. It was also not significantly related to the composite order score.

Stress was significantly related to the depression and anxiety scores of the DASS ($r=0.58$ and $r=0.63$, respectively). As stress increased, so did depression and anxiety levels.

Stress was positively related to the concern over mistakes and personal standards scores of the MPS ($r=0.41$ and $r=0.33$), so as stress increased, so did concern over mistakes and personal standards. Stress was also related to positive perfectionism ($r=0.30$), negative perfectionism ($r=0.34$) and total perfectionism ($r=0.35$). However, it was not related to parental expectations, parental criticisms, doubts about actions or organisation.

Stress was not significantly related to the use of either functional or dysfunctional coping strategies of the COPE, although individually it was negatively related to humour ($r=-0.30$).

Stress was positively related to the negative affect score of the PANAS ($r=0.54$) and negatively related to positive affect ($r=-0.27$), indicating that as stress increased, negative affect also increased, while positive affect decreased.

Stress was not significantly related to the achievement motivation measure of the Ray

AO, gender, age, or the decile rating of high school attended. It was related to the highest secondary school qualification obtained ($r=0.27$) as well as GPA ($r=0.28$). As stress increased, a higher secondary school qualification was obtained, as well as a higher GPA.

4.3.9 COPE Correlations

Table 17 summarises the correlations of the functional and dysfunctional forms of coping of the COPE and the other measures. The individual coping strategies are not reported here, as they do not provide much information on their own. For this reason, the individual coping strategies were divided into functional and dysfunctional coping strategies.

4.3.9.1 Functional Coping Strategies

The functional coping strategies of the COPE were positively related to the extraversion and the agreeableness scores of the NEO PI ($r=0.35$ and $r=0.43$, respectively). As the use of functional coping increased, so did the level of extraversion and agreeableness. Functional coping was not significantly associated with conscientiousness, neuroticism or openness to experience, nor was it related to the composite order score.

Functional coping was negatively related to the depression score of the DASS ($r=-0.42$), so as the use of functional coping increased, the level of depression decreased. Functional coping was not significantly related to the anxiety or stress scores of the DASS.

	Functional Coping	Dysfunctional Coping
NEO PI		
Extraversion	0.35	0.01
Agreeableness	0.43	0.03
Conscientiousness	0.24	-0.33
Neuroticism	-0.15	0.22
Openness	0.24	0.13
Composite Order Score	0.26	-0.29
DASS		
Depression	-0.42	0.25
Anxiety	-0.19	0.20
Stress	-0.08	0.02
MPS		
Concern Over Mistakes	-0.11	0.39
Personal Standards	0.24	-0.18
Parental Expectations	0.04	0.12
Parental Criticisms	-0.10	0.35
Doubts About Actions	-0.11	0.29
Organisation	0.29	-0.28
Positive Perfectionism	0.33	-0.28
Negative Perfectionism	-0.09	0.39
Total Perfectionism	-0.04	0.22
COPE		
Functional Coping	1.00	-0.13
Dysfunctional Coping	-0.13	1.00
PANAS		
Positive Affect	0.49	-0.18
Negative Affect	-0.12	0.34
Ray AO	0.46	-0.35
Gender	-0.01	0.00
Age	0.12	0.08
High School Decile	-0.13	0.15
Secondary Qualification	0.04	0.17
GPA	0.05	-0.31

Table 17: Correlations of the COPE, with the NEO PI Scores, the Composite Order Score, the DASS Scores, the MPS Scores, the COPE Scores, the PANAS Scores, the Ray AO, Gender, Age, High School Decile Rating, Highest Secondary School Qualification Achieved, and GPA.

Note: Correlations in bold italics were significant at $p < 0.05$

Functional coping was related to the organisation score of the MPS ($r=0.29$) as well as positive perfectionism ($r=0.33$), but not to any of the other perfectionism scores. This indicates that as functional coping increased, so did organisation and positive perfectionism.

Functional coping showed no significant relationship with the dysfunctional coping strategies as measured by the COPE. Individually, it was positively related to active coping ($r=0.82$), planning ($r=0.86$), seek instrumental social support ($r=0.79$), seek emotional social support ($r=0.64$), suppress competing activities ($r=0.72$), turn to religion ($r=0.27$), positive reinterpretation and growth ($r=0.73$), restraint coping ($r=0.55$) and acceptance ($r=0.50$).

Functional coping was positively related to the positive affect score of the PANAS ($r=0.49$), indicating that as the use of functional coping increases, so does the level of positive affect. Functional coping was not related to negative affect.

Functional coping was positively related to the achievement motivation as measured by the Ray AO ($r=0.46$), so as the use of functional coping increased, so did the level of achievement motivation.

Functional coping was not significantly related to gender, age, decile rating of high school attended, highest secondary school qualification obtained or GPA.

4.3.9.2 Dysfunctional Coping Strategies

The dysfunctional coping strategies of the COPE were negatively related to the conscientiousness score of the NEO PI ($r=-0.33$), indicating that as the use of

dysfunctional coping increased, the level of conscientiousness decreased.

Dysfunctional coping was not significantly related to extraversion, agreeableness, neuroticism or openness to experience. Dysfunctional coping was negatively related to the composite order score ($r=-0.29$), so as dysfunctional coping increased, the composite order score decreased.

Dysfunctional coping was not significantly related to the depression, anxiety or stress scores of the DASS.

Dysfunctional coping was positively related to the concern over mistakes, parental criticisms and doubts about actions scores of the MPS ($r=0.39$, $r=0.35$ and $r=0.29$, respectively), indicating that as the use of dysfunctional coping increased, so did concern over mistakes, parental criticisms and doubts about actions. Dysfunctional coping was negatively related to organisation ($r=-0.28$), indicating that as the use of dysfunctional coping increased, organisation decreased. Dysfunctional coping was also positively related to negative perfectionism, and negatively related to positive perfectionism.

Dysfunctional coping was not significantly related to the use of the functional coping strategies of the COPE. Individually, dysfunctional coping was positively related to denial ($r=0.68$), mental disengagement ($r=0.55$), behavioural disengagement ($r=0.70$), alcohol or drug use ($r=0.57$) and humour ($r=0.29$), and negatively related to active coping ($r=-0.36$).

Dysfunctional coping was positively related to the negative affect score of the PANAS ($r=0.34$), indicating that as the use of dysfunctional coping increased, negative affect also increased. Dysfunctional coping was not significantly related to positive affect.

Dysfunctional coping was negatively related to achievement motivation as measured

by the Ray AO ($r=-0.35$), so as the use of dysfunctional coping increased, achievement motivation decreased.

Dysfunctional coping was not significantly related to gender, age, decile rating of high school attended or highest secondary school qualification obtained. It was negatively related to GPA ($r=-0.31$), so as the use of dysfunctional coping increased, GPA decreased.

4.4 Regression Analyses

4.4.1 Predicting Grade Point Average (GPA)

4.4.1.1 Highest Secondary School Qualification Obtained

A regression analysis found that the highest secondary school qualification obtained was not a significant predictor of GPA, $F(1, 68) = .72646$, $p < .39703$. The proportion of variance accounted for by the highest secondary school qualification obtained was 10%.

4.4.1.2 Decile Rating of High School Attended

A regression analysis also found that the decile rating of the high school attended was not a significant predictor of GPA, $F(1, 53) = 1.9320$, $p < .17035$. The proportion of variance accounted for by the decile rating of the high school attended was 35%.

4.4.1.3 Positive Perfectionism

A regression analysis found that positive perfectionism was not a significant predictor of GPA, $F(1, 68) = 3.0948$, $p < .08304$. The proportion of variance accounted

for by positive perfectionism was 44%.

4.4.1.4 Negative Perfectionism

A regression analysis found that negative perfectionism was not a significant predictor of GPA, $F(1, 68) = .17276$, $p < .67898$. The proportion of variance accounted for by negative perfectionism was 2%.

4.4.1.5 Total Perfectionism

A regression analysis found that total perfectionism was not a significant predictor of GPA, $F(1, 68) = 1.7635$, $p < .18863$. The proportion of variance accounted for by total perfectionism was 25%.

4.4.1.6 Achievement Motivation

A regression analysis found that achievement motivation was not a significant predictor of GPA, $F(1, 68) = 3.8906$, $p < .05262$. The proportion of variance accounted for by achievement motivation was 54%.

4.4.2 Predicting Achievement Motivation

4.4.2.1 Positive Perfectionism

A regression analysis found that positive perfectionism was a significant predictor of achievement motivation, $F(1, 97) = 35.525$, $p < .0000$. The proportion of variance accounted for by positive perfectionism was 27%.

4.4.2.2 Negative Perfectionism

A regression analysis found that negative perfectionism was not a significant predictor of achievement motivation, $F(1, 97) = 2.6873$, $p < .10439$. The proportion of

variance accounted for by negative perfectionism was 27%.

4.4.2.3 Total Perfectionism

A regression analysis found that total perfectionism was a significant predictor of achievement motivation $F(1, 97) = 5.5222, p < .02080$. The proportion of variance accounted for by total perfectionism was 54%.

4.5 Hierarchical Regression Analyses

A hierarchical regression was carried out to investigate whether positive and negative perfectionism adds significant increment in variance accounted for, when predicting GPA, from highest secondary school qualification obtained. The proportion of variance accounted for by the highest secondary school qualification achieved was 10%. This was not significant, $F(1, 68) = .72646, p < .39703$. When positive perfectionism was added, the proportion of variance accounted for was 49%, however this was not significant $F(2, 67) = 1.7411, p < .18317$. When negative perfectionism was also added, the proportion of variance accounted for was 50%. This was also not significant $F(3, 66) = 1.1737, p < .32650$.

5. Discussion

5.1 Academic Achievement

Although the results were correlational, they indicated that there was a relationship between the personal standards perfectionism subscale and GPA. A higher level of personal standards was associated with a higher GPA. Although there were no significant correlations between overall positive and negative perfectionism, and GPA, this result indicates a relationship between a subscale that is thought of as positive (personal standards). This provides some evidence that positive aspects of perfectionism can be associated with higher academic achievement. This was in agreement with the proposed hypothesis. Blatt (1995) has suggested that personal standards are related to GPA because having high personal standards is also associated with having good work habits and high striving, which contribute to higher academic achievement (in Accordini et al, 2000). Individuals with higher personal standards are thought to have better work habits compared with those who possess high levels of negative perfectionism. They generally put a lot of time and effort into what they do, rather than procrastinating and putting things off. If they achieve lower than what they expected of themselves, they have the ability to continue on, rather than focusing on the “failure”. This enables them to succeed in the things they put their minds to.

Although it was not significantly found here, negative aspects of perfectionism are thought to impede academic achievement. Perfectionist students are often impatient with the trial-and-error style of learning that is necessary in the learning process. They are often reluctant to try a learning task that may be difficult due to their fear of failing, they may fail to complete work to avoid the risk of low marks, or they may have problems making realistic decisions about the length of time spent on

academic studies (Adderholt-Elliot, 1989 in Arthur & Hayward, 1997). Perfectionistic students may not fulfill their potential as they waste a lot of energy on focusing on stress and disappointment over lower achievement, rather than focusing their attention on what they need to do to achieve academically. This supports the idea that perfectionists use avoidance behaviour to cope with their fear of failure. This procrastinating behaviour may provide relief from dealing with the academic workload in the short term, but in the long run it increases the performance pressure for the student (Arthur & Hayward, 1997).

5.2 Achievement Motivation

The results showed that higher levels of positive perfectionism were related to higher levels of achievement motivation. The subscales that achievement motivation were associated with were two of the positive subscales, personal standards and organisation. Additionally, a regression analysis found that both positive perfectionism and total perfectionism significantly predicted achievement motivation. In other words, individuals who showed higher levels of positive perfectionism, generally also had higher achievement motivation. This was in agreement with the proposed hypothesis.

Individuals who show higher levels of positive perfectionism are thought to possess an underlying motive to achieve, rather than to avoid failure, which can influence them to set mastery goals. They have a desire to learn new concepts and material, and want to attain self-improvement. Their increased motivation to achieve leads them to seek out challenges, which often results in learning new skills and content. This can assist in raising self-esteem. These individuals also often see avoiding challenges as being equivalent to failure. Generally, they possess a strong

work ethic, and put in more time and effort towards attaining perfection, rather than showing the tendency to procrastinate. They generally adopt healthy achievement motivation strategies such as time and resource management, asking for help from others, and monitoring their own learning (Neumeister, 2004).

On the other hand, individuals who show high levels of negative perfectionism are generally motivated by a fear of failure, so are more concerned with avoiding making mistakes rather than with achieving. Brophy (2005) suggests that this fear of failure is destructive to achievement motivation. Often these individuals will develop performance-avoidance goals, in which they try to avoid achievement situations in which their performance will be judged, for example, they are often inhibited about participating in classroom activities. If they cannot escape these situations, they will often try to protect themselves and their self-esteem by setting very low goals that they will easily be able to achieve, or by setting extremely high goals that they have no serious intention of trying to achieve (Brophy, 2005). Alternatively, they may set performance-approach goals. However, these goals are also based on a fear of failure, and generally involve measuring their performance against the performance of others in order to feel better about themselves (Neumeister, 2004). When avoidance is not an option, they will often turn to procrastination. This gives the individual an excuse if they do not do well - they can justify the negative outcome as the result of lack of time rather than a lack of ability (Neumeister, 2004).

5.3 General Well-Being

5.3.1 Personality Factors

The results showed that total perfectionism was significantly associated with higher levels of neuroticism, a personality factor that is considered to be negative. When perfectionism is divided into positive and negative aspects, some obvious differences start to emerge. The positive aspects of perfectionism were positively associated with positive personality factors, these being agreeableness and conscientiousness. Higher levels of organisation were related to higher levels of agreeableness, conscientiousness and composite order; higher personal standards were related to higher levels of conscientiousness and composite order; and higher levels of overall positive perfectionism were related to higher levels of agreeableness. Concern over mistakes (a negative aspect of perfectionism) was related to extraversion. Additionally, the results showed that the negative perfectionism aspects were positively associated with the negative personality factor of neuroticism. Higher concerns over mistakes and doubts about actions were both related to higher levels of neuroticism. This was in agreement with the proposed hypothesis, and replicates previous findings that positive perfectionism is related to positive aspects of personality and that negative perfectionism is related to negative aspects of personality.

5.3.2 Positive and Negative Affect

The results showed that positive aspects of perfectionism were not related to positive affect. However, the negative aspects of perfectionism were associated with negative affect. Both concern over mistakes and overall negative perfectionism were

associated with higher levels of negative affect. Concern over mistakes and overall negative perfectionism were also negatively related to positive affect, so higher concern over mistakes and overall negative perfectionism were associated with lower levels of positive affect.

These results were generally in accordance with the hypothesis. Although positive aspects of perfectionism were not related to positive affect, negative aspects of perfectionism were associated with negative affect, and negatively associated with positive affect. This replicates past findings.

5.3.3 Depression and Anxiety

The results showed that the positive aspects of perfectionism were not significantly associated with levels of depression or anxiety. However, the negative aspects of perfectionism were associated with both depression and anxiety. Concern over mistakes was associated with higher levels of both depression and anxiety, while overall negative perfectionism was associated with higher levels of depression.

This is in accord with the hypothesis that depression and anxiety would be associated with negative aspects of perfectionism. This replicates a common finding that perfectionism, in particular negative aspects of perfectionism, is related to levels of depression and anxiety. It is suggested that negative perfectionists tend to set extremely high standards for themselves, and stringently evaluate their own performance. This leads to an increase in the frequency of failure experiences, which impacts on their feelings of self-worth, as they equate self-worth with performance. This results in lower self-esteem. They also experience higher levels of anxiety, as they feel they are being evaluated by others as well as harshly evaluating themselves.

5.3.4 Stress

The results showed that higher levels of concern over mistakes, personal standards, overall positive perfectionism, overall negative perfectionism, and total perfectionism were associated with higher levels of stress. This indicates that both positive and negative aspects of perfectionism are associated with stress, although negative perfectionism was associated with slightly higher levels of stress. This is partially in agreement with the proposed hypothesis, and replicates past findings that perfectionism is associated with higher levels of stress.

A study by Burns and Fedewa (2005) found that negative perfectionists are poor constructive thinkers and do not react well to stress. Pessimism and cognitive inflexibility appear to limit them by feeling distressed about things that may be out of their control. This interferes with their judgement and their ability to focus on the problem at hand. Three interrelated cognitive tendencies appear to contribute to the maintenance of stress in perfectionists. First, trait dimensions of perfectionism are associated with self-blame and preservation regarding failure, both of which are inappropriate methods of dealing cognitively with stress. This tendency to engage in failure preservation would contribute to both causing and maintaining the experience of stress. Second, some perfectionists have a cognitive style that involves the frequent experience of automatic, perfectionistic thoughts. The frequent experience of these thoughts is associated with psychological distress, such as anxiety. Perfectionists also often engage in rumination - when a failure or stressful event occurs they will continually focus on the discrepancy between their real and ideal selves. This increases the salience of the discrepancy and maintains depressive symptoms. Third, rather than engaging in task focused attempts to alleviate distress or distract themselves, those with the ruminative orientation tend to focus cognitively on their

experience of distress and ruminate about the nature and causes of that distress (Hewitt & Flett, 2002). As well as cognitive features of perfectionism influencing stress perpetuation, interpersonal styles of perfectionists can influence the perpetuation and maintenance of stress. The inability of many perfectionists to admit their imperfection may mean that they may not use appropriate measures to deal with stress, such as accessing social support networks or seeking professional help. This can maintain and prolong the stress, as opportunities to obtain social support or information from professionals that may help solve the problem are not utilised (Hewitt & Flett, 2002).

5.4 Coping Strategies

The results showed that positive aspects of perfectionism were related to the use of functional coping strategies. Organisation and overall positive perfectionism were associated with the use of functional coping strategies, such as active coping and planning. Additionally, the results showed that negative aspects of perfectionism were related to the use of dysfunctional coping strategies. Concern over mistakes, parental criticisms, doubts about actions and overall negative perfectionism were associated with higher use of dysfunctional coping strategies, such as mental disengagement and behavioural disengagement, while organisation and positive perfectionism were negatively related to the use of dysfunctional coping strategies. This is in accord with the hypothesis that positive perfectionism would be associated with the use of more adaptive coping strategies, while negative perfectionism would be associated with more maladaptive coping strategies.

It is thought that the more flexible ones coping ability, the better one is able to adapt to a wide range of situations. Negative perfectionists, however, are generally

thought to possess inflexible mindsets, and think only in terms of absolute success and failure (Burns & Fedewa, 2005). Negative perfectionists are poor emotional and behavioural copers. They tend to avoid their problems rather than actively engaging with them. By viewing the world in exaggerated extremes and using a passive coping style, negative perfectionists may be able to avoid the discomfort of shifting to more proactive and engaged coping strategies. By focusing on reactions to a stressor rather than on the stressor itself, predictive certainty for negative perfectionists is in a sense reinforced (Burns & Fedewa, 2005). In contrast, Burns and Fedewa (2005) found that positive perfectionism is adaptive and reinforcing, and was correlated strongly with positive coping behaviours. By taking steps to engage their problems actively and to distract themselves in emotionally healthy ways, positive perfectionists appear to be more tolerant and effective.

5.5 Positive and Negative Perfectionism

Generally, it is believed that motivational distinction plays an important part in whether or not perfectionism has positive or negative outcomes. According to Campbell & Di Paula (2002), if an individual's primary motive is to avoid failure (such as with negative perfectionists), they will often engage in thoughts and behaviours that ultimately undermine the attainment of the goal or standard which is viewed as necessary to be accepted, rather than engaging in effortful goal pursuit. They are often overly concerned with rejection by others, have low efficacy, show rumination tendencies, have goals that are adopted for external reasons, and a tendency to be dissatisfied with goal progress, all of which can hinder achievement and well-being (Campbell & Di Paula, 2002)..

In contrast, those who have an underlying motivation to strive for perfection

rather than avoiding failure (such as positive perfectionists), put more effort into achieving their goals, gain more satisfaction from achieving their goals, have higher self-esteem, have less concern about rejection, actively pursue their goals, and attain better academic outcomes compared with those who do not (Campbell & Di Paula, 2002).

5.6 Methodological Problems

One of the main problems of this study was the trouble experienced obtaining student transcripts for the College of Education students. The academic files for the primary and early childhood teaching students did not contain current transcripts with a grade of first year tertiary achievement. Although contacted repeatedly about this, the College of Education failed to get back to me regarding this, therefore an academic grade was unable to be obtained. This meant these participants could not be included in the data analyses involving the academic information. This resulted in a lower sample size (71 participants instead of 99) which may have affected the results (a larger sample size may have produced more significant results).

There were a number of methodological problems in this study. There was a very low return rate of questionnaires even though an incentive was offered (participants were put in a draw to win one of three \$50 vouchers from Westfield Mall). The overall response rate was approximately 38%.

Once the questionnaires were returned, there were some additional problems. Three of the participants did not take a consent form with them when they collected the set of questionnaires, so this was not returned. This meant that the questionnaire did not include the name of the participant, or a signature giving consent for their academic records and demographic information to be accessed. Four of the participants returned

the consent form but did not sign it. These participants were contacted to ask for a signature. Two participants did so, but the other two did not, so their academic information could not be included in this study.

A further methodological problem occurred when obtaining the ethnicity and the high school attended (in order to obtain the decile rating of the high school). The University of Canterbury student transcripts did not include this information, so the participants were contacted to ask for this information personally. 52 participants replied with this information.

A further methodological problem involved finding a measure of academic achievement motivation. Originally, the Achievement Motivation Inventory was to be used, however there were problems contacting the authors as well as tracking it down, so an older measure, the Ray Achievement Orientation Scale was used.

5.7 Future Research

This study needs to be replicated to investigate if there is indeed a relationship between positive and negative perfectionism and academic achievement (GPA). A larger sample size needs to be used, as this study had a fairly low sample size, and may have found more significant and stronger results had there been a larger sample size.

The relationship between positive and negative perfectionism and achievement motivation also needs to be investigated further. In particular, further analysis should be carried out using a more up to date measure of achievement motivation

5.8 Conclusion

Although the results obtained in this study are correlational in nature, they do provide evidence that positive and negative perfectionism have differential associations with academic achievement, achievement motivation, personality variables, and coping strategies. Generally, positive perfectionism was found to be associated with higher academic achievement, higher achievement motivation, with positive personality factors, and the use of functional coping strategies. Negative perfectionism was generally found to be associated with negative personality factors and the use of dysfunctional coping strategies. It was not associated with academic achievement or achievement motivation. These results may provide an explanation as to why tertiary students who have the potential to succeed academically, may not do so, even with the best intentions. Knowing this, teachers and the students themselves may be able to understand why they may not be achieving the grades they are capable of, and may be able to make changes in their lives to alter this.

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8. Appendices

8.1 Consent Form Given to Participants

Perfectionism and Achievement Masters Project Consent Form

Name: _____
[First Middle Last]

Institution enrolled in: College of Education []
University of Canterbury []

Course of study (e.g. BA; Dip Teaching, etc) _____

Student ID #: _____

I am willing for my data to be passed on to the supervisor of this thesis to be included in another research project of a similar nature YES [☐] NO [☐]

I am willing to be contacted in two years time (i.e. in 2007) to complete another series of questionnaires as part of a longitudinal study YES [] NO []

Email Address 1 (e.g. your current student address): _____

Email Address 2 (e.g. your personal xtra or hotmail account): _____

Most permanent phone # (e.g. your mobile phone #): _____

Long term (permanent) mail address: _____

These details enable us to contact you if we need to check anything from your questionnaires this year, and to make contact to initiate the follow-up in 2007 (if you indicated you would be willing).

I have read and understood the information sheet of the above-named project. On this basis I agree to participate as a subject in the project, I consent to the researchers accessing my student record for the purpose of obtaining information about my academic achievements and basic demographic information, and I consent to publication of the results of the project with the understanding that anonymity will be preserved.

I understand also that I may withdraw from the project, including withdrawal of any information I have provided, up to the point where the data have been analysed.

NAME (please print): _____

Signature:

Date:

Researcher:
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8.2 Information Sheet Given to Participants

Perfectionism and Achievement Masters Research Project Information Sheet

A common assumption is that perfectionists perform well in all areas of their lives. However, this assumption has not been widely studied. The purpose of this Masters project is to investigate how people, who range from low to high on the perfectionism attribute, do academically. It will also investigate how a persons level of perfectionism interacts with other individual attributes, such as being a generally positive or negative person, to influence performance and the motivation to achieve. This project is part of a larger research project investigating the same topic, which is also longitudinal, and will investigate how stable perfectionism is over time.

I would appreciate your participation in this research project in order to complete my Masters thesis. I am asking students who are in their first year of tertiary study to participate. If you agree to participate, you will be asked to do the following:

- ⇒ Provide some basic information about yourself
- ⇒ Complete a set of questionnaires measuring perfectionism, personality, emotions, coping skills and achievement motivation
- ⇒ Provide me with your student identification number and with permission to access your university or college record in 2005 to ascertain how well you have performed in your studies and to obtain basic demographic information
- ⇒ Agree to be re-contacted in two years time (2007) by my supervisor to complete another set of questionnaires, in order to check how stable over time perfectionism and the other aspects of your personality have been (this is optional)

All of the personal information you supply to me will be held in the strictest confidence, so it cannot and will not in any way influence your grades or any other aspect of your studies. The information you provide will only be used for this masters research project, and for the longitudinal study by my supervisor (if consent is given), but no other purpose. Information will be kept in secure storage and in password protected computer files. Only myself and my supervisors will have access to the questionnaires and other personal information. Any publications resulting from the study will report the information anonymously, and your participation in the study will not be disclosed without your permission. You can withdraw from the study at any time up to the point where the data have been analysed.

Your participation in this masters project is very much appreciated, so all participants will go in the draw to win one of three \$50 vouchers.

This project has been reviewed and approved by the Human Ethics Committee of the University of Canterbury. If you have any complaint concerning the manner in which this research project has been conducted, the complaint may be made to the researcher, the researcher's supervisor or to the Secretary, Human Ethics Committee, University of Canterbury, PB4800, Christchurch, Ph (03) 366 7001.

For further information, please contact myself or my supervisor:

Researcher:

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Please keep this information sheet for future reference
Please turn over to complete the consent form

8.3 Questionnaires Given to Participants

8.3.1 Multidimensional Perfectionism Scale (MPS)

DESCRIBING YOURSELF - PART 3:

Please circle the number that best corresponds to your agreement with each statement below.

Use this rating system: Strongly Disagree 1 2 3 4 5 Strongly Agree

	Strongly disagree.....	Strongly agree
1. My parents set very high standards for me.	1	2 3 4 5
2. Organisation is very important to me.	1	2 3 4 5
3. As a child, I was punished for doing things less than perfectly.	1	2 3 4 5
4. If I do not set the highest standards for myself, I am likely to end up as second-rate person.	1	2 3 4 5
5. My parents never tried to understand my mistakes.	1	2 3 4 5
6. It is important to me that I be thoroughly competent in everything I do.	1	2 3 4 5
7. I am a neat person.	1	2 3 4 5
8. I try to be an organised person.	1	2 3 4 5
9. If I fail at work/school, I am a failure as a person.	1	2 3 4 5
10. It should be up to me to make a mistake.	1	2 3 4 5
11. My parents wanted me to be the best at everything.	1	2 3 4 5
12. I set higher goals than most people.	1	2 3 4 5
13. If someone does a task at work/school better than I, then I feel like I failed the whole task.	1	2 3 4 5
14. If I fail partly it is as bad as being a complete failure.	1	2 3 4 5
15. Only outstanding performance is good enough in my family.	1	2 3 4 5
16. I am very good at focusing my efforts on attaining a goal.	1	2 3 4 5
17. Even when I do something very carefully, I often feel that it is not quite right.	1	2 3 4 5

	Strongly disagree.....	Strongly agree
18. I have being less than best at things.	1	2 3 4 5
19. I have extremely high goals.	1	2 3 4 5
20. My parents have expected excellence from me.	1	2 3 4 5
21. People will probably think less of me if I make a mistake.	1	2 3 4 5
22. I never felt like I could meet my parents' expectations.	1	2 3 4 5
23. If I do not do as well as other people, it means I am an inferior human being.	1	2 3 4 5
24. Other people seem to accept lower standards from themselves than I do.	1	2 3 4 5
25. If I do not do well all the time, people will not respect me.	1	2 3 4 5
26. My parents have always had higher expectations for my future than I have.	1	2 3 4 5
27. I try to be a neat person.	1	2 3 4 5
28. I usually have doubts about the simple everyday things I do.	1	2 3 4 5
29. Neatness is very important to me.	1	2 3 4 5
30. I expect higher performance in my daily tasks than most people.	1	2 3 4 5
31. I am an organised person.	1	2 3 4 5
32. I tend to get behind in my work because I repeat things over and over.	1	2 3 4 5
33. It takes me a long time to do something "right".	1	2 3 4 5
34. The fewer mistakes I make, the more people will like me.	1	2 3 4 5
35. I never felt like I could meet my parents' standards.	1	2 3 4 5

Any Additional Comments:

8.3.2 Ray Achievement Orientation Scale (Ray AO)

Ray AO Scale

Please read the following questions and answer them as best you can. Please indicate your answer by ticking the box that best describes your answer.

Is being comfortable more important than getting ahead?

Yes [☐] No [☐] Not sure [☐]

Are you satisfied to be no better than most other people at what you do?

Yes [☐] No [☐] Not sure [☐]

Do you like to make improvements in the way any organization you belong to functions?

Yes [☐] No [☐] Not sure [☐]

Do you take trouble to cultivate people who may be useful to you in your academic work / career?

Yes [☐] No [☐] Not sure [☐]

Do you get restless and annoyed when you feel you are wasting time?

Yes [☐] No [☐] Not sure [☐]

Have you always worked hard in order to be among the best at what you do?

Yes [☐] No [☐] Not sure [☐]

Would you prefer to work with a congenial but incompetent partner rather than with a difficult but highly competent one?

Yes [☐] No [☐] Not sure [☐]

Do you tend to plan ahead for your work or career?

Yes [☐] No [☐] Not sure [☐]

Is “getting on in life” important to you?

Yes [☐] No [☐] Not sure [☐]

Are you an ambitious person?

Yes [☐] No [☐] Not sure [☐]

Are you inclined to read of the successes of others rather than do the work of making yourself a success?

Yes [☐] No [☐] Not sure [☐]

Would you describe yourself as being lazy?

Yes [☐] No [☐] Not sure [☐]

Will days often go by without your having done a thing?

Yes [☐] No [☐] Not sure [☐]

Are you inclined to take life as it comes without much planning?

Yes [☐] No [☐] Not sure [☐]

8.3.3 NEO Personality Inventory (NEO PI)

DESCRIBING YOURSELF

PART 1: For each of the next fifty items consider how well each of the items describes you. Please read each statement carefully, and then circle the number that corresponds to the answer.

		Very Inaccurate	Moderately Inaccurate	Neither	Moderately Accurate	Very Accurate
1	Am the life of the party	1	2	3	4	5
2	Feel little concern for others	1	2	3	4	5
3	Am always prepared	1	2	3	4	5
4	Get stressed out easily	1	2	3	4	5
5	Have a rich vocabulary	1	2	3	4	5
6	Don't talk a lot	1	2	3	4	5
7	Am interested in people	1	2	3	4	5
8	Leave my belongings around	1	2	3	4	5
9	Am relaxed most of the time	1	2	3	4	5
10	Have difficulty understanding abstract ideas	1	2	3	4	5
11	Feel comfortable around people	1	2	3	4	5
12	Insult people	1	2	3	4	5
13	Pay attention to details	1	2	3	4	5
14	Worry about things	1	2	3	4	5
15	Have a vivid imagination	1	2	3	4	5
16	Keep in the background	1	2	3	4	5
17	Sympathize with others' feelings	1	2	3	4	5
18	Make a mess of things	1	2	3	4	5
19	Seldom feel blue	1	2	3	4	5
20	Am not interested in abstract ideas	1	2	3	4	5
21	Start conversations	1	2	3	4	5
22	Am not interested in other people's problems	1	2	3	4	5
23	Get chores done right away	1	2	3	4	5
24	Am easily disturbed	1	2	3	4	5
25	Have excellent ideas	1	2	3	4	5
26	Have little to say	1	2	3	4	5

		Very Inaccurate	Moderately Inaccurate	Neither	Moderately Accurate	Very Accurate
27	Have a soft heart	1	2	3	4	5
28	Often forget to put things back in their proper place	1	2	3	4	5
29	Get upset easily	1	2	3	4	5
30	Do not have a good imagination	1	2	3	4	5
31	Talk to a lot of different people at parties	1	2	3	4	5
32	Am not really interested in others	1	2	3	4	5
33	Like order	1	2	3	4	5
34	Change my mood a lot	1	2	3	4	5
35	Am quick to understand things	1	2	3	4	5
36	Don't like to draw attention to myself	1	2	3	4	5
37	Take time out for others	1	2	3	4	5
38	Shirk my duties	1	2	3	4	5
39	Have frequent mood swings	1	2	3	4	5
40	Use difficult words	1	2	3	4	5
41	Don't mind being the center of attention	1	2	3	4	5
42	Feel others' emotions	1	2	3	4	5
43	Follow a schedule	1	2	3	4	5
44	Get irritated easily	1	2	3	4	5
45	Spend time reflecting on things	1	2	3	4	5
46	Am quiet around strangers	1	2	3	4	5
47	Make people feel at ease	1	2	3	4	5
48	Am exacting in my work	1	2	3	4	5
49	Often feel blue	1	2	3	4	5
50	Am full of ideas	1	2	3	4	5

8.3.4 Composite Order Score

DESCRIBING YOURSELF

Part 2: For each of the questions below consider how well each of the items describes you. Describe yourself as you generally are now, not as you wish to be in the future. Describe yourself as you honestly see yourself, not as you think most people would respond. Agree only to those questions that describe you well.

Please read each statement carefully, and then circle that number that corresponds to the answer.

	STRONGLY DISAGREE	DISAGREE	AGREE	STRONGLY AGREE
1. Most of the time my room is in complete disarray.	1	2	3	4
2. I feel comfortable even in very disorganized settings.	1	2	3	4
3. Being neat is not exactly my strength.	1	2	3	4
4. Half of the time I do not put things in their proper place.	1	2	3	4
5. My routines are not set in stone. I deviate from them when needed.	1	2	3	4
6. I need a neat environment in order to work well.	1	2	3	4
7. I dislike doing things without proper planning.	1	2	3	4
8. Organization is a key component of most things I do.	1	2	3	4
9. I rarely deviate from my morning routines.	1	2	3	4
10. I hardly ever lose or misplace things.	1	2	3	4
11. I keep detailed notes of important meetings and lectures.	1	2	3	4
12. Every item in my room and on my desk has its own designated place.	1	2	3	4

8.3.5 Positive and Negative Affect Scale (PANAS)

POSITIVE AND NEGATIVE AFFECT SCHEDULE



This scale consists of a number of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you have felt this way over the past few weeks
Use the following scale to record your answers.

1	2	3	4	5
very slightly	a little	moderately	quite a bit	extremely
or not at all				

.....	interested
.....	distressed
.....	excited
.....	upset
.....	strong
.....	guilty
.....	scared
.....	hostile
.....	enthusiastic
.....	proud
.....	irritable
.....	alert
.....	ashamed
.....	inspired
.....	nervous
.....	determined
.....	attentive
.....	jittery
.....	active
.....	afraid

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8.3.6 Depression, Anxiety and Stress Scale (DASS)

DESCRIBING YOURSELF

For each of the statements below, please circle the number which best indicates how much the statement applied to you OVER THE PAST WEEK. There are no right or wrong answers. Do not spend too much time on any one statement.

		Did not apply to me at all	Applied to me to some degree, or some of the time	Applied to me a considerable degree, or a good part of the time	Applied to me very much, or most of the time
1	I was unable to become enthusiastic about anything	0	1	2	3
2	I felt downhearted and blue	0	1	2	3
3	I felt scared without any good reason	0	1	2	3
4	I feared that I would be "thrown" by some trivial but unfamiliar task	0	1	2	3
5	I felt I wasn't worth much as a person	0	1	2	3
6	I felt I was pretty worthless	0	1	2	3
7	I felt that life wasn't worthwhile	0	1	2	3
8	I was aware of dryness of my mouth	0	1	2	3
9	I was worried about situations in which I might panic and make a fool of myself	0	1	2	3
10	I found myself getting impatient when I was delayed in any way (e.g. lifts, traffic lights, being kept waiting)	0	1	2	3
11	I found myself getting upset rather easily	0	1	2	3
12	I found it hard to calm down after something upset me	0	1	2	3
13	I was in a state of nervous tension	0	1	2	3
14	I found it hard to wind down	0	1	2	3
15	I couldn't seem to get any enjoyment out of the things I did	0	1	2	3
16	I felt terrified	0	1	2	3
17	I felt that life was meaningless	0	1	2	3
18	I experienced trembling (e.g. in the hands)	0	1	2	3
19	I had a feeling of shakiness (e.g. legs going to give way)	0	1	2	3
20	I felt I was close to panic	0	1	2	3
21	I found it difficult to relax	0	1	2	3
22	I perspired noticeably (e.g. hands sweaty) in the absence of high temperatures or physical exertion	0	1	2	3
23	I felt that I had lost interest in just about everything	0	1	2	3
24	I could see nothing in the future to be hopeful about	0	1	2	3
25	I found myself in situations which made me so anxious I was most relieved when they ended	0	1	2	3
26	I felt that I was using a lot of nervous energy	0	1	2	3

8.3.7 The COPE

COPE



We are interested in how people respond when they confront difficult or stressful events in their lives. There are lots of ways to try to deal with stress. This questionnaire asks you to indicate what you generally do and feel when you experience stressful events. Obviously, different events bring out somewhat different responses, but think about what you usually do when you are under a lot of stress.

Then respond to each of the following items by choosing one number for each, using the response choices listed just below.

1 = I usually don't do this at all.

2 = I usually do this a little bit.

3 = I usually do this a medium amount.

4 = I usually do this a lot.

Please try to respond to each item separately in your mind from each other item. Choose your answers thoughtfully, and make your answers as true FOR YOU as you can. Please answer every item. There are no 'right' or 'wrong' answers, so choose the most accurate answer for YOU – not what you think 'most people' would say or do. Indicate what YOU usually do when YOU experience a stressful event.

1. I try to grow as a person as a result of the experience.
2. I turn to work or other substitute activities to take my mind off things.
3. I get upset and let my emotions out.
4. I try to get advice from someone about what to do.
5. I concentrate my efforts on doing something about it.
6. I say to myself "this isn't real".
7. I put my trust in God.
8. I laugh about the situation.
9. I admit to myself that I can't deal with it, and give up trying.
10. I restrain myself from doing anything too quickly.
11. I discuss my feelings with someone.
12. I use alcohol or drugs to make myself feel better.
13. I get used to the idea that it happened.
14. I talk to someone to find out more about the situation.
15. I keep myself from getting distracted by other thoughts or activities.
16. I daydream about things other than this.
17. I get upset, and am really aware of it.
18. I seek God's help.
19. I make a plan of action.
20. I make jokes about it.

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- | | |
|---|--------------------------|
| 21. I accept that this has happened and that it can't be changed. | <input type="checkbox"/> |
| 22. I hold off doing anything about it until the situation permits. | <input type="checkbox"/> |
| 23. I try to get emotional support from friends and relatives. | <input type="checkbox"/> |
| 24. I just give up trying to reach my goal. | <input type="checkbox"/> |
| 25. I take additional action to try to get rid of the problem. | <input type="checkbox"/> |
| 26. I try to lose myself for a while by drinking alcohol or taking drugs. | <input type="checkbox"/> |
| 27. I refuse to believe that it has happened. | <input type="checkbox"/> |
| 28. I let my feelings out. | <input type="checkbox"/> |
| 29. I try to see it in a different light, to make it seem more positive. | <input type="checkbox"/> |
| 30. I talk to someone who could do something concrete about the problem. | <input type="checkbox"/> |
| | |
| 31. I sleep more than usual. | <input type="checkbox"/> |
| 32. I try to come up with a strategy about what to do. | <input type="checkbox"/> |
| 33. I focus on dealing with this problem and, if necessary, let other things slide a little. | <input type="checkbox"/> |
| 34. I get sympathy and understanding from someone. | <input type="checkbox"/> |
| 35. I drink alcohol or take drugs, in order to think about it less. | <input type="checkbox"/> |
| 36. I kid around about it. | <input type="checkbox"/> |
| 37. I give up the attempt to get what I want. | <input type="checkbox"/> |
| 38. I look for something good in what is happening. | <input type="checkbox"/> |
| 39. I think about how I might best handle the problem. | <input type="checkbox"/> |
| 40. I pretend that it hasn't really happened. | <input type="checkbox"/> |
| | |
| 41. I make sure not to make matters worse by acting too soon. | <input type="checkbox"/> |
| 42. I try hard to prevent other things from interfering with my efforts at dealing with this. | <input type="checkbox"/> |
| 43. I go to the cinema or watch television, to think about it less. | <input type="checkbox"/> |
| 44. I accept the reality of the fact that it happened. | <input type="checkbox"/> |
| 45. I ask people who have had similar experiences what they did. | <input type="checkbox"/> |
| 46. I feel a lot of emotional distress and I find myself expressing those feelings a lot. | <input type="checkbox"/> |
| 47. I take direct action to get around the problem. | <input type="checkbox"/> |
| 48. I try to find comfort in my religion. | <input type="checkbox"/> |
| 49. I force myself to wait for the right time to do something. | <input type="checkbox"/> |
| 50. I make fun of the situation. | <input type="checkbox"/> |
| | |
| 51. I reduce the amount of effort I'm putting into solving the problem. | <input type="checkbox"/> |
| 52. I talk to someone about how I feel. | <input type="checkbox"/> |
| 53. I use alcohol or drugs to help me get through it. | <input type="checkbox"/> |
| 54. I learn to live with it. | <input type="checkbox"/> |
| 55. I put aside other activities in order to concentrate on this. | <input type="checkbox"/> |
| 56. I think hard about what steps to take. | <input type="checkbox"/> |
| 57. I act as though it hasn't even happened. | <input type="checkbox"/> |
| 58. I do what has to be done, one step at a time. | <input type="checkbox"/> |
| 59. I learn something from the experience. | <input type="checkbox"/> |
| 60. I pray more than usual. | <input type="checkbox"/> |

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